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Understanding University Graduates' Social Mobility Trajectories: How Does the Route Affect the Outcome?

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THE UNIVERSITY *of* EDINBURGH

Thesis submitted for the degree of

Doctor of Philosophy

University of Edinburgh

School of Geosciences

Year of Submission 2019

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Lay summary

Graduates' social mobility is an area of growing interest, especially as more and more people are obtaining higher education degrees, and a decreasing proportion of those with degrees can count on stable, full-time, paid employment upon graduation. The findings from previous studies with respect to graduates' social mobility in this contemporary setting are unconvincing. They tend to assume that education can guarantee a 'good job' in the future to the same extent as it did in the past, they tend to exclude those who are in less conventional forms of employment, and they tend to compare the situation of a given individual to the situation of their parents several years apart, paying little attention to graduates' own work histories. Since these work histories are what inevitably lead to a given social mobility outcome, more understanding is needed regarding the dynamics, processes, and mechanisms, which result in the ascent or descent of graduates across social strata.

In order to contribute to better understanding of graduates' social mobility, this study investigates the relationships between individuals' work histories and their social mobility trajectories, accounting for several additional characteristics. These characteristics can either be observed before graduates undertake their employment, which implies that they are outside of their control, or during graduates' own careers, which shifts the importance towards their ability, effort, and the decisions they make.

The results show that social mobility is more complex than simply moving up or moving down the social strata, and the outcome may be different depending on when and how it is measured. Employment histories play an important role in these processes, but they are, to some extent, dependent on the social class of their parents, and the local labour market in which they reside. In addition, this study points to several strategies, which can allow graduates to do well 'against the odds'. These include temporary migration to bigger cities, as well as careful consideration of the subject studied at the level of higher education. However, the extent to which these strategies may be beneficial depends on which employment route a given graduate takes.

Abstract

University graduates' social mobility trajectories have become more varied and complex as a result of substantial changes, which occurred in the labour market in the past few decades. These changes include expansion of higher education, occupational restructuring, and destandardisation of life course. As the relationship between graduates' social mobility trajectories and their career pathways are more obscure in contemporary society, further investigations are required.

In the past, education was considered a distinct early career stage, typically followed by full-time paid employment, during which an individual ascended the occupational ladder. More recently, the notion of a 'job for life' has been replaced with a notion of 'boundaryless career', which is less dependent on the traditional organisational career principles. Although these changes are widely recognised in scholarly rhetoric, the consequences of following different career routes for individual's propensity to move across the social strata are less understood. The literature recognised both education and migration as factors, which can facilitate one's social mobility, but their role in the 'boundaryless careers' is less clear. This thesis aims to better understand the relationships between graduates' intra-generational social mobility trajectories and their career pathways, thereby contributing to the social mobility literature.

More specifically, it aims to answer the following research questions: What are graduates' typical intra-generational social mobility trajectories, and to what extent can they be explained by different types of career pathways? Can these relationships be explained by the attributes and circumstances observed prior to the start of their employment trajectory? What is the role of internal migration and higher education and in the context of different career types?

In order to answer these questions, information about a sample of graduates was extracted from the 1970 British Cohort Study. Their economic activity histories were reconstructed and sequence analysis was used to derive a typology of graduates' progression through social classes, distinguishing between lateral linear, lateral non-

linear, upward linear, upward non-linear, and downward social mobility trajectories. A similar method was used to derive the typology of their career pathways, which distinguishes between stable, part-time, self-employed, and fragmented careers. A set of logistic regression models was fitted to test whether graduates' career type can explain their social mobility trajectories. Having established a statistically significant relationship between these two concepts, the investigation was expanded by incorporating additional factors, which included the social, geographical and individual attributes observed in the to-be graduates' early life, as well as the characteristics of their internal migration trajectories, and higher education.

The results show that graduates' social mobility is more complex than initially expected, and that the career pathway significantly explains some aspects of graduates' social mobility, even after accounting for their higher education and migration. They also indicate that different career types operate on different principles, and therefore the context of the career is vital for understanding the social mobility-facilitating capability of higher education and internal migration. This implies that the increased variety and complexity of graduates' careers, inherent in their nature, can contribute to better understanding of their progression via social strata, and points to the importance of longitudinal studies. The career type is recognised as the missing link in the contemporary social mobility research, and the recommendations are made to incorporate the characteristics of one's career into future research.

Acknowledgements

Many people helped me during this PhD journey, I would like to express my appreciation to some of them. Firstly, I would like to thank Economic and Social Research Council (ESRC) and Skills Development Scotland (SDS), for providing funding to conduct this research. In addition, I would like to thank ESRC for the advice and guidance during the PGR conferences and SDS, especially Dr Lynne Robson and Gillian McIntyre, for the help and support during my PhD internship with SDS.

I would also like to thank my PhD supervisors: Dr Zhiqiang Feng, Prof. Chris Dibben and Dr Darja Reuschke, as well as my viva voce examiners: Dr Alan Marshall, and Prof. Paul Lambert, for the useful feedback and comments on earlier drafts of this thesis. In addition, I am also grateful to Dr Zhiqiang Feng for the constant support and encouragement during the process, and Prof. Chris Dibben for guiding me through final steps leading to the submission of this work. There are also other academics, especially Prof. Cristina Iannelli and Dr Adriana Duta, whose advice was indispensable in completing this work. I would also like to thank Chen Siew Fong for the help with creating the maps, and my recently-made colleagues at Centre for Longitudinal Studies for the discussions about and the interest in my research, as well as the participants of the 1970 British Cohort Study for providing information about their lives, which made this research possible.

I am also grateful to the friends I made during my PhD journey and alongside whom I hope to travel into our future careers. These include the friends I made during the time I spent at University of St Andrews, especially Dr Steven Owen, Dr Tom Smith, Dr Megan Carras, Dr Valeria Toledo, Dr Helen Packwood, Dr Vanessa MacLellan, Dr Emily Gal, Carina Gärtner, as well as those I made during the time I spent at the University of Edinburgh, especially Barbara Rubiell, Dr Magda Schmid, Gergő Baranyi, Dr Jennifer Noall, Lara Jones and Jakub Kozłowski. The endless discussion we had about anxiety management, the importance of methodology chapter in PhD thesis, reality TV shows, the distinctions between 'early' and 'late' Foucault, and the extent to which reality is socially constructed remain amongst the most memorable

moments during these last few years. Most importantly, however, you were there for me to both celebrate my achievements and to drown my sorrows, and I cannot thank you enough for that. I am also exceptionally grateful to Dr Steven Owen for never letting me give up.

Several friends outside of academe also accompanied me along this journey, and I am grateful for your support. Rebecca Horrocks, you taught me how to pursue my dreams; Anna Kondera, you believed in me even when I did not believe in myself; Katarzyna Kil you showed me there always are alternative paths; Monika Zdrojewska you ensured the few breaks I took were worth it. I wouldn't have gotten here without you.

Publications and Presentations Arising as a result of this PhD

Journal articles

Wielgoszewska, B, (2018). Onwards and upwards? Migration and social mobility of the UK graduates, Regional Studies, Regional Science, 5:1, 402-411, doi: 10.1080/21681376.2018.1552188.

Wielgoszewska, B, (2017). Deriving a Typology of University Graduates' Career Pathways Using Theoretically Driven Sequence Analysis. SAGE Research Methods Cases. doi: 10.4135/9781526409713

Conference and event presentation

"Journey from PhD to a Professional Role" Keynote Presentation at networking event for the Scottish Graduate School of Social Science and Skills Development Scotland Collaborative PhD Programme in Glasgow (15 March 2019)

"Understanding University Graduates' Career Pathways: How Does the Route Affect the Outcome?" Conference and Poster Presentation at networking event for the Scottish Graduate School of Social Science and Skills Development Scotland Collaborative PhD Programme in Glasgow (26 March 2018)

"The Role of Inter-Regional Migration in Achieving Social and Economic Success for Graduates on "New" Career Pathways" Conference Presentation at RGS-IBG Annual International Conference in London (29 August-1 September 2017) and at Society for Longitudinal and Life Course Studies Annual Conference in Stirling (11-13 October 2017) and CLOSER conference on inequalities in longitudinal perspective in London (1-2 November 2017)

"Career Pathways: Choice of fate?" Conference Presentation at AQMeN International Conference – Rediscovering Inequalities in Edinburgh (26 October 2016)

"The role of higher education in achieving social and economic success for graduates on "new" career pathways" Conference Presentation at Society for Longitudinal and Life Course Studies Annual Conference in Bamberg (5-8 October 2016)

"University Graduates' Career Pathways" Poster Presentation at 7th ESRC Research Methods Festival in Bath (5-7 July 2016)

"Typology of University Graduates Careers" Presentation at 3 Minute Thesis Competition Final in St Andrews (28 May 2016)

"Understanding Career Pathways and Their Outcomes" Poster Presentation at networking event for the Scottish Graduate School of Social Science and Skills Development Scotland Collaborative PhD Programme in Glasgow (12 March 2015)

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Chapter 1 Introduction

"Really to own what you inherit, you must first earn it by your merit."

Goethe in Young (1958, p. 15)

1.1 The Enigma of Graduates' Social Mobility

The labour market has changed dramatically over the past few decades, reflecting shifting economic, social, and political realities. As a result of these changes, it is crucial to understand the relationships between graduates' social mobility trajectories and their career pathways, in the setting of the contemporary labour market. This need for greater understanding is especially vital as it becomes apparent that previously uncovered, and since widely recognised relationships cease to apply in the contemporary setting.

Expansion of higher education is one of the main changes which differentiates contemporary labour markets from those operating in accordance with traditional principles. Higher education, once associated with elitism and privilege, more recently became a mass experience (Furlong and Cartmel 2009). With the policy focus on widening access to higher education, aimed at ensuring that the participation rates are more representative of the population, higher education graduates have become a less homogeneous group in the labour force over time. Nevertheless, much of the evidence in support of such educational expansion has been developed on the basis of studies pre-dating the expansion era (Bratti, Naylor, and Smith 2006). As higher education graduates represent an increasing proportion of the labour force, their qualification may no longer provide a route to success, and the navigation of their employment decisions is likely to require more calculated approaches. Thus, the applicability and effectiveness of previously-successful educational strategies requires further scrutiny in the contemporary setting.

Destandardisation of the life course is another one of such changes. This destandardisation implies that

> "life states, events and their sequences become experiences which either characterize an increasingly smaller part of a population or occur at more dispersed ages and with more dispersed durations" (Brückner and Mayer 2005, p. 32).

In particular, changes have been observed in the shift away from long-term, stable 'jobs for life' towards more flexible and more uncertain, 'boundaryless careers' (Hollister 2011, Arthur and Rousseau 2001). As there is little evidentiary consensus on whether these boundaryless careers offer more progression opportunities, as compared to the stable, traditional careers, there is a need for greater understanding in this area.

Furthermore, occupational restructuring was another substantial change. In the UK, the distribution of people across the social classes has changed from the pyramidal form in 1951, with majority of population employed in the working class jobs, to more rectangular form by 2011, with more 'room at the top' (Goldthorpe 2016). However, these changes have been geographically uneven. Most of these high-quality jobs have been created in already-advantaged regions (Jones and Green 2009), while post-industrial areas suffered from a lack of regeneration (Social Mobility Commission 2017a). Since these geographical disparities created structures which offer varying opportunities to residents of different regions, more understanding of whether and how the characteristics of the local labour markets, such as local unemployment rates or predominant industry sector, affect the social mobility of their residents is required.

While the mentioned-above changes have been widely documented, their consequences for graduates' employment prospects and the resultant propensity for social mobility are less clear. On the one hand, in accordance with consensus theory (Brown, Hesketh, and Wiliams 2003), widening access policies reduced the gap in opportunities possessed by those more and less privileged, and higher education acted as *the great equaliser* (Torche 2011). According to this perception, the increasingly diverse graduates have greater flexibility to 'experiment', and more freedom to

allocate their knowledge to employment of their choice which, in turn, results in more varied and complex career patterns. On the other hand, the proportion of overeducated graduates has doubled in the post-expansion era (Chevalier and Lindley 2009), and struggles to gain competitive advantage in the graduate-saturated labour markets became more pronounced, in line with the conflict theory (Brown, Hesketh, and Wiliams 2003). As "the ever-anxious middle classes have to embark upon new strategies to achieve positional advantage for securing sought-after employment" (Tomlinson 2012, p.414), the cycle of inequalities perpetuates. Social inequalities can manifest themselves in more elaborate ways in the contemporary society, and therefore they require continual and detailed investigations. Otherwise, social injustice can be misinterpreted as an increased meritocratic selection.

1.2 Thesis Aims and Objectives

This thesis aims to contribute to current understanding of the relationships between university graduates' intra-generational social mobility trajectories and their career pathways, in the era of educational expansion, destandardisation of the life course and occupational restructuring. This is achieved by meeting the below-stated research objectives, which provide answers to the following research questions:

RQ1: What are graduates' typical intra-generational social mobility trajectories, and to what extent can they be explained by different types of career pathways?

- To develop a typology of commonly reoccurring patterns in graduates' social mobility trajectories, defined by their social class.
- To develop a typology of commonly reoccurring patterns in the graduates' career pathways, defined by their economic activities.
- To test whether, and if so to what extent, the career pathways explain the social mobility trajectory types.

RQ2: Can the relationships between social mobility trajectories and career pathways be explained by the attributes and circumstances observed in graduates' early life?

- To consider a set of early life indicators which, based on previous studies, can impact on graduates' social mobility trajectories followed in later life.
- To explore whether these indicators contribute to explaining the previously-uncovered relationships between graduates' social mobility trajectories and their career pathways.

RQ3: What is the role of internal migration in the context of different career types for social mobility?

- To understand the aspects of internal migration that are expected to facilitate graduates' social mobility trajectories.
- To understand whether migration plays a facilitating role in the context of different career types for social mobility.

RQ4: What is the role of higher education in the context of different career types for social mobility?

- To understand the aspects of higher education, such as degree grade, field of study and institution, that are expected to facilitate graduates' social mobility trajectories.
- To understand whether higher education plays a facilitating role in the context of different career types for social mobility.

1.3 Contribution of the Thesis

This thesis makes several contributions to the understanding of university graduates' social mobility. Firstly, this thesis challenges some of the assumptions underpinning social stratification and social mobility research, such as those related to occupational maturity and the linearity of the social mobility processes, which force the simplification that social mobility can be either upward or downward, bringing to the fore the complexity and the importance of intra-generational social mobility. Detailed investigation of graduates' social mobility trajectories over the period of 26 years following the completion of compulsory education reveals that they are much more

varied and complex than is often assumed. Thus, the commonly applied in social mobility studies comparison of social class at two time points may obscure the full portrayal of the complexity inherent in the social mobility processes.

Secondly, by questioning the extent to which Britain can be seen as 'the great meritocracy' (May 2016) the thesis reveals the persistent disparities in social mobility trajectories by social background. It shows that graduates originating from routine and semi-routine backgrounds are more likely to enter the labour market via routine and semi-routine jobs, and climb up the social class ranks over their working lives. At the same time, those originating from higher social class backgrounds are more likely to enter the labour market via jobs related to higher social ranks, and remain in these jobs until age 42. Although by the time they are age 42 their social position may be comparable, their struggles experienced along the way may vary greatly, potentially projecting to other spheres of their lifecourse. While some argue that in the contemporary society the concept of social class is dying (see for exmaple Clark and Lipset 1991, Pakulski 1993), these results contribute to the growing body of evidence regarding the ways in which the socio-economic advantage and disadvantage is transmitted across generations. Although class differences manifest themselves in more elaborate ways, the differences in the struggles of the members of different social class are likely to experience persist.

Lastly, by uncovering the gaps at the disciplinary nexus, it offers new insights into the potential causes for the divergence of the social mobility trajectories. In particular, it recognises career type as the missing link in current social mobility research and thus offers new insights into the disparities between the social mobility trajectories. It shows that there is a room for consideration of the career, defined as an "unfolding sequence of any person's work experiences over time" (Arthur and Rousseau 1996a, p. 30), in social mobility theory. Moreover, it shows that career type significantly explains the variation in graduates' social mobility trajectories, and that some of these effects persist even after progression-facilitating characteristics from other dimension of graduates' life course are accounted for. This indicates that career pathways should be afforded further attention.

1.4 Thesis Structure

This thesis is structured as follows. **The next chapter** develops the conceptual framework, which forms the basis for the empirical investigation conducted in this thesis. It provides a review of the current debates in social mobility literature, with respect to occupational basis for social class measures, their timing within the life course, and the linearity of the social mobility processes. It then demonstrates how these have been addressed within the boundaryless career literature, showing these two strands of literature have much to gain from better understanding of one another. It then posits further questions with respect to meritocracy, as the prerequisite for social mobility. It also raises further questions with respect to the facilitating capability of internal migration and higher education, which are rooted in the Escalator Region Theory (Fielding 1992) and Origin-Education-Destination triangle theory (Blau and Duncan 1967). It concludes by placing the research questions listed above within the mutually complementary nexus of knowledge between social mobility and boundaryless careers literature.

The third chapter presents the methodological approaches taken in order to operationalise this research, conceptualised in the form of the research onion (Sauders, Lewis, and Thornhill 2003). In this chapter, each section describes the rationale behind the choices made at each stage of the research process, including the justification for the life course paradigm, abductive research approach, cohort study, application of the quantitative multi-method combining the sequence analysis and logistic regressions, longitudinal time horizon, as well as the choices made with respect to sampling, multiple imputations, model selection, and predicting probabilities. It also demonstrates that data extracted from the 1970 British Cohort Study (BCS1970) can be used to operationalise this research most appropriately.

The fourth chapter provides rationale and details the procedure behind the derivation of the longitudinal, as well as the static, measurements of the concepts presented in chapter two. Furthermore, it compares the distribution of each measured variable across the whole sample available from the given sweep of the BCS1970, the sample

of those who obtained a degree by the time they were age 42, and the analytical sample selected for the purpose of this research. This comparison reveals that the analytical sample can be considered as representative of the overall sample of graduates in the given cohort. However, some systematic variations between graduates and the overall sample of BCS1970 cohort members are revealed.

The fifth chapter provides answers with respect to RQ1, which asks: what are graduates' typical intra-generational social mobility trajectories, and to what extent can they be explained by different types of career pathways? It develops the typology of social mobility trajectories, which distinguishes between lateral linear, lateral non-linear, upward linear, upward non-linear, and downward social mobility trajectories. Lateral linear trajectories are those, in which graduates remained in the same social class throughout their working lives. In the case of lateral non-linear trajectories, graduates' social class related to their first and the most recent occupation was the same, but time was also spent working in occupations related to other social classes. Upward linear trajectories are those in which every subsequent occupation was related to higher social class than previous occupation. In upward non-linear trajectories, the most recent occupation was related to higher social class than the first occupation, but progression was not always upward. Finally, downward trajectories include those in which the most recent occupation was related to lower social class than the first occupation. It also develops the typology of career pathways distinguishing between: stable careers, part-time, self-employed, and fragmented careers. In the stable career, education is considered as a stage of early life course, which is followed by full time paid employment. Graduates on the part-time career spend substantial amount of time in part-time paid employment. Self-employed career graduates spend substantial amount of time being self-employed. Fragmented career graduates do not follow any of the previously-described types and reveal complex longitudinal patterns. Further investigation reveals statistically significant relationships between these two typologies. The results show that, in comparison to the stable careers, fragmented careers are more likely to be upward non-linear and less likely to be lateral linear. At the same time, part-time careers are more likely to be lateral non-linear or downward,

and less likely to be upward linear, and that self-employed careers are less likely to be upward linear and more likely to be downward. These results are further discussed.

The sixth chapter provides answers with respect to RQ2, which asks: can these relationships be explained by the attributes and circumstances observed in graduates' early life? This brings to the fore meritocracy as the prerequisite for social mobility. The empirical investigation conducted in this chapter incorporates a wide set of additional characteristics observed in early life, and explores the extent to which graduates select themselves onto the given trajectory types, and whether this selection is in line with meritocratic principles. It shows that individual's characteristics contribute significantly to the explanation of the career pathways. However, they exhibit little impact on social mobility beyond what is manifested by the career type. Amongst the geographical factors, the proportion of professional workers and the industry sector in the area contribute significantly to the explanation of the social mobility trajectories of their residents. Parental social class significantly explains both career types and social mobility trajectories. While these results contribute to the better understanding of the agency-structure duality in the context of graduates' careers, they only partially explain the relationships established in the previous chapter.

The seventh chapter provides answers with respect to RQ3, which asks: What is the role of internal migration in the context of different career types for social mobility? It tests the extent to which Escalator Region Theory (ERT) (Fielding 1992) applies within the British graduates context. It derives a typology of migration trajectories based on their mobility between escalator and non-escalator regions, distinguishing between: lasting residents in escalators, who act according to the ERT, by either moving to and/or staying in escalators until the time they are 42; temporary movers, who partially act according to the ERT by moving to escalators during the early stages of their career, but moving out of by the time they are 42; complex movers, who do not act according to ERT; and those who do not move to escalators at all. This derivation shows that over half of the movers, amongst graduates considered in this study, do not act as predicted under ERT. The results with respect to the relationships between migration and social mobility also show limited support for ERT, as in general

no statistical differences are detected in terms of upward mobility of the lasting residents in escalators and those who stay in non-escalators. However, significant differences are detected for graduates on fragmented careers, indicating that upward social mobility, is more likely related to the flexibility and adaptability of the migrants who self-select to this group, rather than the increased opportunities the escalator regions. Furthermore, the results with respect to temporary movers offer novel insights. Temporary movers are more likely to have part-time or self-employed careers, and their moves out of escalators appear to coincide in time with shifts towards these non-standard forms of employment, pointing to alternative explanations for the 'stepping off' the escalators stage. Furthermore, rather than facilitating their upward mobility, temporary migration appears to protect graduates from downward mobility, pointing to travellator effects (Findlay et al. 2009).

The eighth chapter provides answers with respect to RQ4, which asks about the role of higher education in the context of different career types? It tests the applicability of the Origin-Education-Destination triangle (Blau and Duncan 1967), investigating the facilitating role of graduates' degree grade, field of study, and institution attended. Educational characteristics provide some explanation as to the graduates' propensity to experience certain social mobility trajectories. For example, social mobility of LEM (Law, Economics and Management) graduates' is most likely non-linear, while STEM (Science, Technology, Engineering and Mathematics) graduates are most likely to have stable careers and lateral linear social mobility trajectories. OSSAH (other social sciences, arts and humanities, including languages) degrees are most likely to facilitate upward linear and prevent from downward mobility. Nevertheless, the results offer limited support for education acting as an equaliser, as parental social class remains a significant predictor in the case of three out of five social mobility trajectory types. This points to persistent but complex way in which advantage is transmitted across generations, much in line with the Effectively Maintained Inequality hypothesis (Lucas 2001).

The final chapter concludes by bringing together the evidence, which stretch across all empirical chapters. It then discusses their implication, laying the path for further

policy and practice interventions, which have been developed in consultation with Skills Development Scotland and demonstrate the practical impacts of the findings. It also highlights potential avenues for future longitudinal research, in particular, with respect to: social mobility-career pathways relationships in different socio-demographic groups, and their comparison across geographical locations in historical times (Elder 1998); incorporation of the partnership and parenthood trajectories into social mobility research; and the need for greater understanding of the attachment to place by social class.

Chapter 2 Conceptualising Routes and Outcomes

"The definition of career success, and associated research, to date tends to only relate to those in paid employment (predominantly full-time), and, by extension, those who are not in paid employment (predominantly full-time) do not have career success."

Mulhall (2011, p. 68)

2.1 Introduction

Having defined the research questions and objectives this project aimed to tackle in the previous chapter, this chapter aims at reviewing the debates present in the recent literature, which led to the development of conceptual framework shown in Figure 2.1. This framework recognises career type as a central concept of this thesis. For any given individual, this career is to an extent shaped by early life and leads to certain levels of social mobility, which can only be evaluated in later life. Internal migration and higher education are identified as two facilitating factors, which are embedded in the context of the given individual's career and, if effectively navigated, are expected to enhance upward social mobility. This framework forms a foundation for the empirical investigation conducted in subsequent chapters.

The first section of this chapter develops the concept of social mobility as an indicator of success, highlighting the three main areas of concern present in the recent debates: the occupational basis for status measures, time point dependence, and linearity of the social mobility processes. The second section discusses the notion of boundaryless careers, which recognises the complex nature of the contemporary labour market, and therefore can be seen as complementary to social mobility studies. The rhetoric in these studies leads to the development of three boundaryless career types: self-employed, part-time, and fragmented, which are contrasted against the stable career archetype. The third section discusses the meritocracy, as a prerequisite for social mobility, and

the extent of potential impact of individual, social and geographical characteristics, observed already in early life, on shaping later life outcomes. The penultimate section discusses two strategies thought to facilitate social mobility. Firstly, student and graduate migration is discussed, in the context of the Escalator Region Theory (ERT). Secondly, the characteristics of higher education are discussed, in the context of Origin-Education-Destination (OED) triangle theory. The final section concludes drawing parallels between these debates and the research questions this thesis aims to answer.

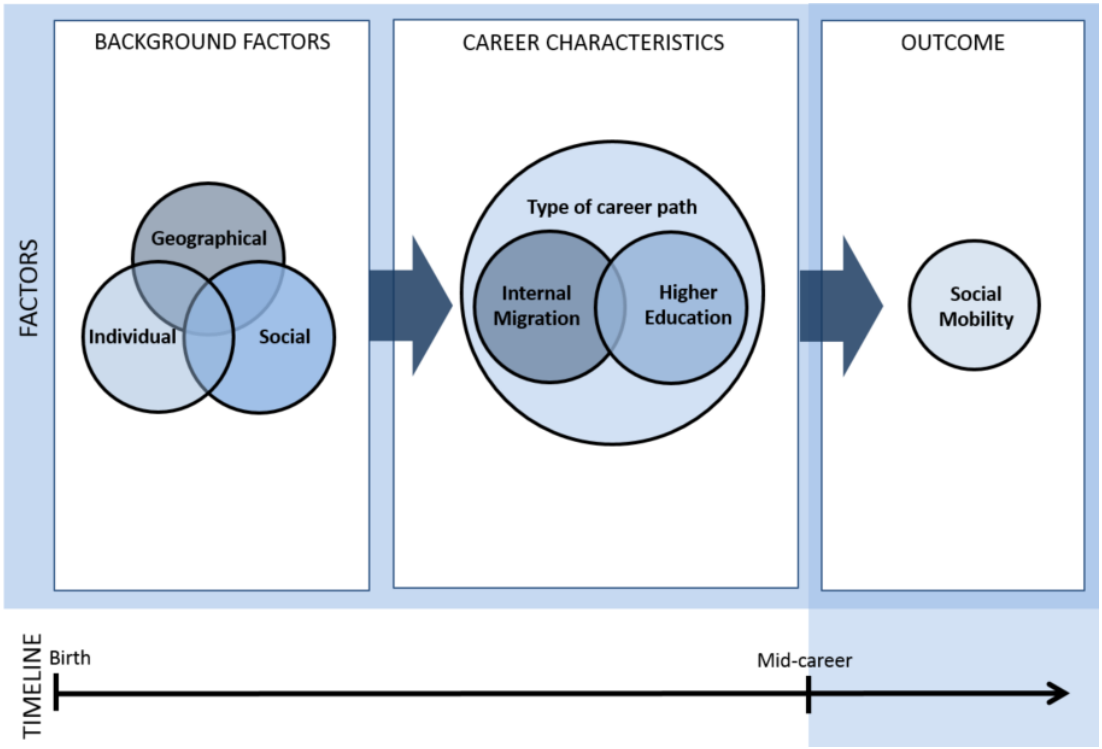

Figure 2.1 Thesis conceptual framework

Source: own compilation

2.2 Social Inequality and Social Mobility

Ensuring equal opportunity for people from diverse background is a topic of major concern, and to date, the UK government policies to improve social mobility have failed to deliver enough progress (Social Mobility Commission 2017b). Social inequalities are associated with a long list of health and social problem, which occur

more frequently amongst the lower rungs of the social ladder (Wilkinson and Pickett 2017, Pickett and Wilkinson 2009). Amongst others, these problems include increased levels of crime (Daly, Wilson, and Vasdev 2001, Elgar and Aitken 2010), poor physical and mental health (Elgar 2010, Ram 2006, Pickett and Wilkinson 2010), and lower educational attainment (Siddiqi et al. 2007, Pickett and Vanderbloemen 2015). At the same time, especially at the top of the ladder, the intergenerational social mobility is remarkably low. The richest tend to isolate themselves in their own networks, and split the nation by increasing the divide between 'the elites' and 'the rest', making social mobility increasingly difficult (Datta 2014, Frank 2008, Lasch 1996).

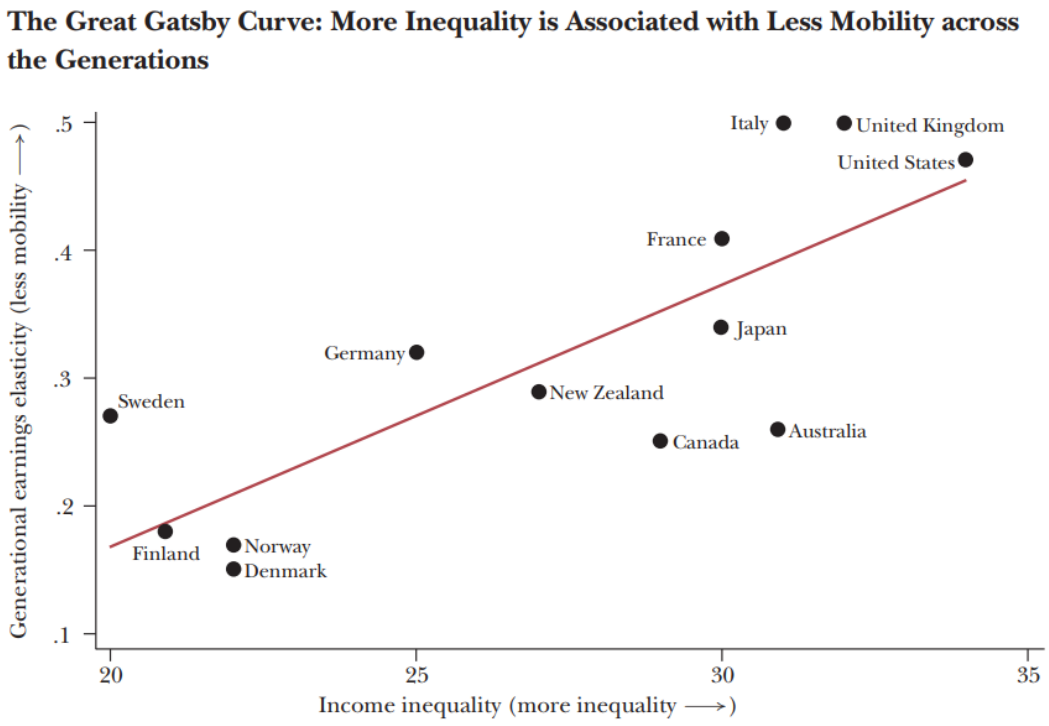

Figure 2.2 Great Gatsby Curve

Source: Corak (2013, p. 82)

In economic theory, this idea is conceptualised with Great Gatsby Curve (Krueger 2012), shown in Figure 2.2. This conceptualisation highlights that the lack of social mobility goes hand in hand with the inequality (Corak 2013). It also shows that, in the

context of international comparison, the UK is one of the countries, where the income inequality is the highest and at the same time, the levels of mobility are the lowest.

As social mobility remains a pressing concern, in the UK and elsewhere, it continues to lay at the heart of debates about social inequalities. Due to the large body of related research, this section of this review focuses only on three areas of current debates: occupation as the basis for one's social status measures, time point at which the evaluations of social mobility are conducted, and linearity of the social mobility progression/regression. The remainder of this section elaborates on these three aspects in more detail, highlighting the need for more understanding of graduates' social mobility in the UK.

2.2.1 Occupational Basis

The divergent findings between economic and sociological literature regarding the social mobility in the UK (Erikson and Goldthorpe 2010) highlighted issues related to measurement and operationalisation of social mobility. Economists, focused on the income disparities between generations, found declining rates of mobility and evidence in support of the 'inter-generational income persistence' (see for example Blanden, Gregg, and Macmillan 2006, 2013). At the same time sociologists, mainly concerned with the inter-generational disparities in social classes, find no decline in the mobility rates over time (see for example Bukodi et al. 2015, Goldthorpe and Jackson 2007), or a small but steady linear trend towards increasing social mobility (Lambert, Prandy, and Bottero 2007). Although the debates regarding the adequacy of social class measures and its occupational basis have been long present in the social stratification literature (see for example Pahl 1989, Clark and Lipset 1991, Pakulski 1993), in the context of longitudinal studies, this divergence initiated the debates with respect to operationalisation of the socio-economic status.

Jerrim and Vignoles (2011) attributed these contradictory findings to the methodological and measurement issues. Erikson and Goldthorpe (2010) suggest that the economists' finding of declining mobility may be a result of the family income

variable for the 1958 cohort providing a less adequate measure of permanent income than in the case of the 1970 cohort. However, Blanden, Gregg, and Macmillan (2013) in their subsequent study tested and rejected this hypothesis, suggesting instead that an increase in the intergenerational persistence of the permanent component of income is unrelated to social class. They conclude that the two measures address different aspects of the life course, stating that "social class reflects job autonomy and wider social capital, whereas income and earnings reflect economic opportunities. In this study, we find limited common ground between the two approaches" (2013, p. 562).

Gregg, Macmillan, and Vittori (2014) explore additional complication related to the exclusion of workless individuals highlighting that previous UK estimates based on point in time measures have excluded those who have zero earnings at the time of observation, which is thought to introduce additional bias, comprising of two components.

> "The first is sample selection, where our estimates are not representative of the whole population because they exclude individuals who are found towards the bottom of the income distribution. The second is a methodological issue regarding what to assign to those who are workless as a replacement value for their earnings during periods out of work" (Gregg, Macmillan, and Vittori 2014, p. 84).

This aspect, however, is not exclusive to the economic measures. Social class measures are also based on the occupational classifications, and therefore assigning social class to those who are not in active employment is not straightforward and excluding the inactive has implications for the representativeness of the sample.

This presents an increased challenge, especially for two social groups, who are of direct interest for this research: females and the graduates. In terms of females, the declining support for the male-breadwinner-female-homemaker family model resonated with the increase in female participation in the labour force (Cunningham 2008, Ross et al. 2009). Nevertheless, several recent studies circumvent this issue by limiting the analytical sample to men only (see for example Bukodi and Goldthorpe

2011, Sturgis and Sullivan 2008, Bukodi and Goldthorpe 2009). Sturgis and Sullivan (2008) justify this approach by saying that

> "[f]or brevity, we restrict our attention in the following analyses to a single sex. For pragmatic reasons we have chosen to focus on men; interpretation of trajectories for females is complicated by periods outside the labour force for the purposes of child rearing and the more rapidly changing labour market position of women during the period in quest." (p. 72).

While the pragmatism of this approach is appreciated, limiting analytical sample to the easier-to-analyse half of the population can only present a partial picture.

Students and graduates are another social group, which can be viewed as especially problematic due to the occupational basis for the status measures. Rose, Pevalin, and O'Reilly (2005, p.34) state that, in the NS-SEC classification, "conventionally, where full-time students are included in analyses […], they are normally allocated a position through their family household". This can be especially troublesome in the context of mature students and life-long learning, as the impact of family of origin is thought to vary over time. Furthermore, higher education students are likely to delay gratification (Heslin 2005). This implies that although higher education does not offer any employment rewards at the time of the participation, delayed gratification is perceived as key factor that influences student's motivation to excel in academic tasks (Bembenutty 2009b), which is associated with success in later life. Delayed gratification implies that students' postponement of immediately-available opportunities that would satisfy impulses in favour of pursuing important academic rewards or goals that are temporally remote but ostensibly more valuable (Bembenutty 2009a). Thus, in the case of graduates the rewards related to education are not necessary observed simultaneously to education, or even immediately after graduation, which complicates the relationships between their potential social class and the social class they are allocated to, as based on their family household. The approach of substitution by former occupation also introduces insufficiently explored source of bias (Bergman and Joye 2005), especially problematic in the case of graduates, as it could only be applied in the case of those who worked prior to undertaking education.

Moreover, in the light of growing evidence related to graduates' overeducation/underemployment[1], social class related to the occupation they perform might not adequately reflect their position or their prospects across the social strata. Overeducation implies that graduates undertake jobs, which require lower level of skill than the level they possess. One of the reasons behind this phenomenon is thought to be the rise in the quantity of graduates. Chevalier and Lindley (2009) compare overeducation in the period pre- and post- expansion cohort of graduates in the UK and find that the proportion of overeducated graduates has doubled. In the meta-analysis of the overeducation studies, Groot and Van Den Brink (2000) find that female workers are more frequently overeducated than men. However, overeducation was found to diminish with years of experience (Groot and Maasen Van Den Brink 1997). Further findings with respect to overeducation show that the overeducated earn less than those in graduate jobs (Dolton and Vignoles 2000) and not necessarily more than those in non-graduate occupations (Green and Zhu 2010). It is also thought to adversely affect job satisfaction (Battu, Belfield, and Sloane 1999).

Conversely, overeducation is thought to be resultant from declining quality of graduate jobs. Keep and Mayhew (2004) argue that in recent years any job performed by a graduate became a graduate job, even if it did not require a degree, on the example of booksellers, art administrators, and recruitment consultants. Goldthorpe (2016, p. 102) reiterates the point by stating that "the graduate job would now appear to be a fast-fading concept; and a situation of over-qualification at the graduate level in turn results in the 'bumping down' of the labour-market value of all lower-level qualifications." Furthermore, Brown, Hesketh, and Wiliams (2003 p.111) note that "the idea that 'the more you learn the more you earn' has a degree of validity as long as other people are not learning the same things, otherwise you are running to stand still".

The review of career success studies conducted by Mulhall (2011, p. 68) reflects on this concerns, in stating that

[1] Both terms relate to the same phenomenon and are used interchangeably throughout this thesis.

> "the definition of career success, and associated research, to date tends to only relate to those in paid employment (predominantly full-time), and, by extension, those who are not in paid employment (predominantly fulltime) do not have career success. A call is sounded for researchers to explicitly incorporate those with non-traditional employment arrangements, such as part-time employees, in addition to those in non-paid work, such as volunteers, into their studies. Their absence highlights a limitation in the empirical research, as it does not reflect the diversity of career patterns that individuals enact".

Sullivan and Baruch (2009) add to these criticisms suggesting there is a need to incorporate those with non-traditional working arrangements, such as part-time employment or non-paid work.

2.2.2 Time Point Dependence

A second area of concern in the recent social mobility debates, relates to the time point at which the differences between people's statuses are evaluated. Social mobility theory distinguishes between the movements across the social layers from one generation to the next (i.e. inter-generational mobility) or within individual's lifetime (i.e. intra-generational mobility). The vast majority of previous social mobility studies focus on the former type. These tend to rely upon cross sectional surveys or compare two points in time, usually the parental social class and that of the individual, and to date, intra-generational social mobility has taken secondary place (Tampubolon 2009).

Social mobility studies are often underpinned by the occupational maturity assumption, which can be seen as embedded in Super's theory of Vocational Development. This theory states that the establishment stage, which occurs between ages 25 and 44, is the third stage of career development. It follows the growth stage and the exploration stages, and during this stage stabilisation occurs (Salomone 1996). This perception, reflected by the occupational maturity assumption,

> "asserts that individuals reach a stage in their careers after which occupational changes conductive to significant upward or downward mobility become relatively uncommon. In other words, it is suggested that there exists an initial stage that is 'critical' for career promotion (or demotion). After this stage, job mobility is still possible but should mostly involve horizontal moves that are

> not much consequential for individuals' locations in the occupational hierarchy" (Barone and Schizzerotto 2011, p. 336).

The occupational maturity assumption is commonly used as a justification for the time point at which social class is measured. For example, Bukodi and Goldthorpe (2011) measure the occupational level attained by men in later working life at the stage of predicted occupational maturity, and Goldthorpe (2016) measure the destination social class at age 38, on the ground that by this age the position becomes stable.

However, in the era of career destandardisation, this assumption of critical period, which precedes occupation maturity, could be challenged. For example, Hoven et al. (2017, p. 9) argue that "[in addition to the childhood conditions] adulthood conditions are important as well (irrespective of what happened before) and that neither childhood nor adulthood can be seen as a "critical period" in its strict sense." Especially in the case of graduates, the initial - exploration stages - of the labour market are postponed until after graduation, and their transitions to adulthood take longer to complete (Clark 2007, Hogan and Astone 1986). Thus, the distinction between the exploration and establishment stages is more blurred. As noted by Atherton (2017, p.118)

> "the concept of a career trajectory is lost when the attention remains predominantly on intergenerational mobility. The ideas of permanent income and occupational maturity […] may be good and accurate ways of summarising earnings and occupation over the life course, but they tell us nothing about the life course itself. This suggests the need for different ways of studying social mobility […]. Life history research, for example, can tell us as much about social mobility as any of the quantitative studies that have come to define the nature of study in the field".

As pointed out by Connelly, Gayle, and Lambert (2016, p. 9) "data analysts using occupation-based socio-economic classifications should be cognisant of the concept of occupational maturity and consider adjusting their analyses whenever it is required".

2.2.3 Linearity of Social Mobility

The final area of concern relates to the equalisation of the successful career in terms of upward and downward linear progression. Social class has an inherent hierarchical

structure, which places the salariat - managerial and professional workers - on the top of this hierarchy, and individuals working in intermediate occupation, which include clerical, sales, service and intermediate technical occupations that do not involve general planning or supervisory power, in the middle. At the bottom of the hierarchy are the working classes, employed in routine and semi-routine occupations (Goldthorpe 2016). This hierarchical structure may be seen as reflective of the societal structures. As stated by Ryder (1985, p.857)

> "in a modern society, most adult roles are located in hierarchized structures. Factories, churches, labor unions and political parties distribute income, prestige and power along an approximately age-graded continuum. Memberships in such structures decrease the probability of individual transformation. In the majority of occupations, a steadily upward progression of status occurs throughout most of the age span."

This hierarchical perception has often been extended to the recognition of upward moves as accomplishment and manifestation of success. Moen and Sweet (2004, p.212) claim that the "orderly (and generally upwardly mobile) career is a product of industrialization and urbanization, along with concomitant development and bureaucratization of occupational lines". This recognition is also present in the more recent studies. For example, Goldthorpe (2016) partition the total mobility rates into two components: upward and downward. While this perception may have been adequate when the labour market was dominated by the presence of large organisations, which planned, managed, executed and controlled the reward system associated with the promotions of their employees, it is thought to be less applicable in the contemporary labour market. Baruch (2004p. 60) highlights that the traditional view of careers

> "was based on a hierarchical, highly structured, and rigid structures. […] The organizational hierarchy was the ladder to climb on. As a result, career success was evaluated via the rate of upward mobility and external indicators of achievement (e.g. salary and social status). Stability of structure and clarity of career ladders implied clear career paths, which were mostly 'linear'".

Within such hierarchal structures, the traditional careers were typically entered via the lower ranks of these large organisations. Over time, employees worked their way up,

by demonstrating their commitment and capabilities, with a view of reaching the top positions. This notion reflects what is described in the career literature as 'orderly' (Wilensky 1961, 1960), 'organizational ' (Maanen 1977, Hess, Jepsen, and Dries 2012), 'linear ' (Baruch 2004, Brousseau et al. 1996, Eby, Butts, and Lockwood 2003), 'standardised ' (Mayer 2005) or what is sometimes referred to as 'old' careers (Arnold and Jackson 1997).

With such perceptions the comparisons of those who are successful to those who are not is relatively straightforward. However, more recent literature recognised the progression as multidirectional, rather than linear. Baruch (2004, p. 61) elaborates on this notion by developing the analogy between a labour market and a landscape. In this analogy the career is perceived as a walk across this landscape. He states that

> "the linear career model can be depicted as a journey of mountain climbing. […] Multi-directional career model takes into account the full scale of landscapes. […] You can climb the mountain, you can opt for another mountain, take some hills instead, wander along the plains – a variety of options is accepted."

When considering everyone as on an individualised walk through a variety of landscapes, the comparison of one person's path to another's is obscured, and therefore more challenging.

This multidimensionality has been echoed in the recent social mobility studies, with the development of ideas such as 'glass floor' (Reeves and Howard 2013) and 'opportunity hoarding' (Tilly 1998). These notions are especially adequate to the graduate context, if the educational qualifications they obtain during the earlier stages of their career allow them to bypass the entry-level ranks. These phenomena can be seen as having its routes in the theory of loss aversion, as "families may be regarded as being yet more concerned with the avoidance of downward mobility than they are with the achievement of upward mobility" (Goldthorpe 2016, p. 106). Gugushvili, Bukodi, and Goldthorpe (2017, p. 306) explains this concept by stating that "the families in the higher reaches of the income distribution engage in opportunity hoarding by exploiting their advantaged social position in various ways to safeguard

their children's labour market chances". Milburn et al. (2015) finds evidence of these phenomena in Britain. Their study highlights that

> "children from better-off families are hoarding opportunities in the education system (places in Grammar schools, the ability to exercise 'choice' in the non-selective state school system) and then, in part as a result of higher levels of qualifications, they are able to hoard opportunities in the labour market" (2015, p. iv).

Friedman and Macmillan (2017) in the more spatially oriented analysis also find that domestic migrants from professional and managerial backgrounds in London are overrepresented, and less likely to experience downward mobility than those from similar backgrounds elsewhere in the country, which in their view is indicative of glass floor or opportunity hoarding. This increased variability of the landscape in contemporary labour market, and the lack of downward social mobility of those from higher social classes, should encourage evaluation of less linear and less directional nature.

2.3 Career Pathways

Having highlighted the several areas of concern in the social mobility debates, this section discusses how the career literature addresses these concerns in a complementary way. Career, which as shown in Figure 2.1 is the central concept of this study, is commonly defined as "an unfolding sequence of person's work experiences over time" (Arthur, Hall, and Lawrence 1989, Arthur, Khapova, and Wilderom 2005). Arthur and Rousseau (1996a, p. 29) contrast this definition against the 'old' meaning of the term, which define "a course of professional advancement; usage restricted to occupations with formal hierarchical progression, such as managers and professional".

This 'new' definition alone already addresses several of the debates present in the social mobility studies. It highlights, the focus is on 'work experiences', rather than solely full-time paid employment. It emphasises the dynamic nature of career development over time, as opposed to the static view on the job or the occupation

currently performed. It also recognises the sequential, rather than strictly upward or downward nature of the career building process. In turn, career studies can benefit from the approaches taken within the social mobility literature. Within such mutual consideration the limitations of career studies, which include the need for more clearly defined boundaries and more objective and empirical studies and are evaluated upon below, can also be alleviated, thereby enabling progresses in the understanding of contemporary labour market landscapes.

The criticism of the traditional, organisational, stable careers perception have led to the development of the notion of 'boundaryless' career, first proposed by DeFillippi and Arthur (1996). Boundaryless careers where initially defined as antonym of the 'bounded' or 'organizational' career, characterised by independence from, rather than dependence on, traditional organizational career principles (Arthur and Rousseau 1996b, DeFillippi and Arthur 1996). Although the term boundaryless career is used in this thesis to describe the societal move towards less conventional career principles, it should also be noted that it exists in the literature under several alternative labels: such as precarious employment or nonstandard employment relations. These labels

> "have in common their identification of employment relations that depart from standard work arrangements in which it was generally expected that work was done full-time, would continue indefinitely, and was performed at the employer's place of business under the employer's direction" (Kalleberg 2000, p.341).

Following the initial endorsements of boundaryless career concept, subsequent studies pointed out several of its limitation (Feldman and Ng 2007, Inkson et al. 2012).

Firstly, the construct of boundaryless careers was recognised as imprecise (Feldman and Ng 2007). Moving outside the organisational boundaries can be related to, for example, job mobility, occupational mobility, inter-industry mobility, or geographical mobility, and therefore the boundaries depend on how the mobility is classified (Rosenfeld 1992). Boundaryless careers are not limited to a specific form of career, but more broadly recognised as an umbrella term for much wider range of careers, which is sometimes referred to as the era or age of boundaryless careers (Eby, Butts,

and Lockwood 2003, Hess, Jepsen, and Dries 2012) or boundaryless career world (Arthur, Khapova, and Wilderom 2005, Gunz, Evans, and Jalland 2000). Inkson et al. (2012) suggest that boundary-crossing might be a more accurate label and, in an attempt to increase the precision of the construct, the specific boundaries studied, whether occupational, geographical or work-life, should be more explicitly stated (Hess, Jepsen, and Dries 2012).

Secondly, there is a lack of empirical evidence for the existence of boundaryless careers, and the existing empirical research suffers from inconsistent use of terminology and methodological limitations (Gubler, Arnold, and Coombs 2014), which occurred as a result of scholars struggling with a number of fundamental questions about boundaryless perspective (Eddleston, Baldridge, and Veiga 2004). The need for more empirical evidence has also been reflected upon by Inkson et al. (2012, p.329) in stating that

> "on the basis of the predominant view that the key feature of boundaryless careers is crossing employer or organization boundaries, boundarylessness (or boundary-crossing) should be reflected in labour turnover statistics, which surely measure objective, though not subjective, career boundarylessness. Such information is not however provided in 'boundaryless career' studies, which typically assert that boundaryless careers have increased in frequency, or predominate, but offer no empirical evidence that this is so".

This lack of empirical evidence behind the generalisation made regarding the boundarylessness highlights the need for more understanding.

In an attempt to disentangle the terminology and to develop a more precise typology of boundaryless careers, further review of the literature was conducted in this research. This led to development of a typology, which is based on the routing of the rhetoric regarding the boundaries between economic activities that are crossed by those who are considered to have such careers. Economic activities are used, because this measure is the most comprehensive in term of work experiences, which is consistent with the earlier-stated definition of careers. It also incorporates various forms of both employment and non-employment. Furthermore, economic activities evaluation is particularly relevant to the analysis of graduates and women, as it allows for the

inclusion of spells of education, as well as other types of worklessness, for example time spent looking after the family. On the basis of the boundaries crossed between the economic activities, career literature can be seen as diverging into three separate concepts, which are labelled here as self-employment, part-time work, and fragmented careers. The remainder of this section draws parallels between different forms of careers discussed in the literature, organised according to these three concepts, in order to justify these distinctions.

2.3.1 Self-employment

The first emerging theme in the career literature suggests that people increasingly limit their dependency on employer by crossing the boundaries between paid employment and self-employment in order to further their career goals. While some studies analyse the transitions from careers within organisations into self-employment explicitly (see for example Mallon and Cohen 2001), others use the overlapping terms such: independence, freelancing, and entrepreneurship from which the relationship to self-employment is inferred. For example, Kalleberg (2000) defines independent contractors as one type of non-standard employment, later stating that "independent contractors are self-employed" (2000, p.355).

The post-corporate career model, developed by Peiperl and Baruch (1997), is another example, where self-employment is not addressed explicitly. They refer to "independents, who are more or less self-sufficient", and state that

> "clearly there is a different model of careers now in operation […]. These new careers take place outside of large organizations […]. Often, this type of career develops after individuals exit such organizations, either involuntarily or by their own choice." (1997, p.11).

However, this model includes start-up venture founders, who are considered as self-employed (see for example Earle and Sakova 2000).

Further references to the shift between employment and self-employment are seen in the literature surrounding "portfolio careers". Clinton, Totterdell, and Wood (2006)

state that this type of work " is characterized by obtaining and doing a variety of pieces of work for a number of different clients or employers and is suggested by many to be an increasing practice" (2006, p. 179). They define portfolio workers as "a self-employed individual or freelance worker who is employed by a number of different organizations or clients on short-term contracts either in series or in parallel." (2006, p. 183). Smeaton (2003, p.379) defines "self-employed portfolio workers are typically professionals, favoured by education, who flexibly exploit an emerging 'new deal' in the employment relationship", and Fenwick (2006, p. 66) states that "in portfolio work, individuals contract their skills and knowledge to various individuals and organisations, in effect creating a 'portfolio' of work activity for themselves."

2.3.2 Part-time Work

The second set of studies suggests that people, especially women, increasingly replace full-time paid employment with part-time work, in order to allocate more time to personal and/or family life and as a way of balancing family and employment (Warren 2004), and therefore this notion is very prominent in the literature discussing work-life balance/conflict (see for example Bonney 2005, Higgins, Duxbury, and Johnson 2000), as well as in the context of dual-career couples (see for example Hardill 2004, Lucchini, Saraceno, and Schizzerotto 2007). However, increasing prevalence of part-time work has also been discussed under alternative terminology. For example, Kennedy, Krahn, and Krogman (2013) refer to reducing work hours to increase leisure time as 'downshifting'. It is also evident in the notion of 'controllable lifestyle' careers. For example, medical students are thought to increasingly select themselves into professions, which have fewer number of practice hours per week with a view of having more free time (Schwartz, Jarecky, et al. 1989, Schwartz, Simpson, et al. 1989, Dorsey, Jarjoura, and Rutecki 2003).

2.3.3 Fragmented Careers

In the third emerging theme in the career studies the specific boundaries between types of economic activities crossed as less evident. However, these studies highlight that crossing of boundaries between different activities is becoming more common and

frequent than under the traditional, stable career model. This phenomenon has been noticed prior to the development of the boundaryless career notion. Driver (1985), already in 1980s described an increasing number of careers characterised by "consistent pattern of inconsistency". More recently, Brückner and Mayer (2005, p.33) stated that "the individuals are assumed to gain greater control over their lives, thus pursuing a wider variety of life designs and life trajectories".

This increased frequency of boundary-crossingness is also present in the notion of "protean careers" (Hall 1996, Hall and Moss 1999, Hall 2004), in which the analogy between career and Proteus, Greek mythology sea god who could change his shape, is drawn. Other forms of career which reflect these frequent changes are "kaleidoscope career" (Sullivan et al. 2009, Mainiero and Sullivan 2005), which use the analogy of a tube producing different patterns when rotated, and "spiral career" (Brousseau et al. 1996), in which the career characterised by major periodic moves across occupational areas, specialties, or disciplines is compared to a spiral.

2.4 Early Life

As discussed above, there are links between the social mobility and career literature and combining these two perceptions within one study can be reciprocally beneficial. However, as emphasised in the life course literature, individual lives are embedded in social and geographical structures, which impact on how these lives unfold (Dykstra and van Wissen 1999, Smith, Finney, and Walford 2016), and human agency processes cannot be studied in isolation from the sociohistorical context in which they are embedded (Schoon 2007). This is echoed within social mobility studies by the assumption of meritocracy (Francis and Wong 2013), and in the criticisms of the boundaryless career by the overemphasis of human agency, which thereby neglects the influence of opportunity structures. The concepts of meritocracy and human agency suggests that people have the freedom to allocate their knowledge and skills towards the career of their choosing, regardless of the structures within which they operate. However, Heinz (2003) highlights that, for example frequent career breaks, should not be considered as risk-taking attitudes, but as reflective of the sectoral shifts and the

short-term contract policy of firms. Furthermore, Inkson et al. (2012, p. 328) point out that "the assumption of agency in boundaryless career theory privileges educated elites and marginalizes lower-skilled workers, women and minorities for whom boundarylessness simply means unemployment, insecurity and anxiety." This overemphasis is present not only in the context of boundaryless career, but also more broadly in the sociological literature. As pointed out by Waite (2009) the most famous accounts of transformation of work in sociology make no mention of precarity, generally associated with risk, insecurity, uncertainty and vulnerability.

The agency-structure duality is also present in the boundaryless carer literature. Boundarylessness can be both voluntary, resulting from individuals' choices, and involuntary, determined by the structural constraints. As noted by Duberley, Mallon, and Cohen (2006, p. 281)

> "career theory has been criticised for focusing on either the external, observable features of career with the individual a shadowy figure in the background, or focusing on the individual's subjectivity and blurring the (constraining or enabling) effects of social structures".

The push-pull debate in the context of self-employment has not been fully answered (Hughes 2003), part-time employment has been described as both the hope and the peril (Kahne 1992), and the extent to which temporary workers are able to obtain permanent jobs is an unresolved issue (Kalleberg 2000). For example, as shown by McKeown (2005) on an example of professional contractors, for some such working arrangements can present a trap which they are unable to escape, and which is associated with the lack of opportunities for more permanent employment. At the same time, for others it can act as a bridge – a planned career move enabling them to pursue childcare or lifestyle options. In Europe, involuntary nonstandard employment tends to be highest in Spain, Portugal and Poland, while it tends to be lower in countries with Anglo-Saxon and Nordic welfare state models (Green and Livanos 2017). In the UK, those in weak regional economies were particularly at risk of involuntary nonstandard employment (Green and Livanos 2015).

In order to gain better understanding of whether boundarylessness present in the UK graduates' careers is desirable or unwelcomed, more evidence with respect to the agency-structure interplay is required. One perception enabling more comprehensive understating of this duality is rooted in path dependence theory (Mahoney 2000, Vergne and Durand 2010), which views person' life is a non-stochastic process, evolving as a consequence of its own history. Currie and Almond (2011) summarise several longitudinal studies, which suggest that characteristics that are measured as of age 7 can explain a great deal of the variation in educational attainment, earnings as of the early 30s, and the probability of employment in later life. According to this view, consideration of factors observed in early childhood is vital for understanding later life and, via this perception, a career in later life can be perceived as a continuation of early life.

This section reviews the evidence in the literature, which are thought to increase people's prevalence of following certain career and achieving certain career success. These are organised into three subsections, related to individual, social, and geographical factors. While the distinction between these factors is not always clear-cut, as the three spheres can overlap and reinforce each other, it presents a useful tool for organising the literature.

2.4.1 Individual Factors

The overemphasis on human agency, discussed earlier in the context of boundaryless career literature, also features in context of social mobility debates. The idea of meritocracy, which is a prerequisite for social mobility (Francis and Wong 2013), places key emphasis on individual's abilities and efforts, suggesting that structural factors take secondary place. Amongst the individual-level predictors of careers, the impact of gender, aspirations, and ability are most widely researched, and are discussed in more detail below.

According to the boundaryless career notion, life course of males and female increasingly resemble one another over time (Brückner and Mayer 2005) and the male-

breadwinner-female-homemaker model is occurring less frequently (Lewis 2001). Although this might suggest that current labour markets offer more gender equality, especially following the introduction of gender equality legislation, gender differentials are widely documented and the results from various studies point to conclusion that females experience substantial disadvantage. Previous studies indicate that women struggle more and more to respond to the competing demands of education, work and childbearing (Anyadike-Danes and McVicar 2010) and they face a hindrance to career advancement from low level entry jobs. While entering the career via lower level occupation is a stepping stone for men, it is likely to represent a trap for women (Bukodi and Dex 2009). Savage (2011) also finds that men are more likely to move up the earnings scale, while women are more likely to move down. Women who temporarily exit labour market to raise children experience the wage penalty related to motherhood (Budig and England 2001) and are more likely to move in and out of work (Stewart 2014). Following childbirth, many female part-time managers switch to occupations that underutilise their skills (Johnes 2009). However, even women who had not had children by the age of 34 are paid less, on average, than similarly qualified men (Neuburger 2010). Gender pay gaps are not merely a problem for women returning to work part-time, but also for those in full-time continuous careers (Joshi, Makepeace, and Dolton 2007). At the same time for men, the transition to fatherhood is associated with either increase in hours worked or no significant change, depending on whether they are married or not (Percheski and Wildeman 2008).

There are conflicting evidence with respect to whether these differences arise as a result of discrimination, or are related to choices women make. Some previous studies indicate that these differences might be a result of comparatively disadvantaged situation of women in the labour market, related to issues such as discrimination and sexual harassment (Fitzgerald and Shullman 1993). The idea of 'glass ceiling', restricting women from advancing past a certain level, is also broadly studied and its existence is often confirmed (Adams and Funk 2012, Smith, Caputi, and Crittenden 2012). Lyness and Thompson (1997) go even further, suggesting there might be a

'second glass ceiling' experiences by women who progressed past the first one, as women at the highest executive levels report more obstacles than those on lower levels.

However, there is also evidence that suggests that these differences can arise as a result of preferences manifested by different hierarchies of values between men and women. Women tend to allocate more time for domestic responsibilities, which results in their preference to remain shorter hours in employment (Moen and Sweet 2004). Their career breaks are most often related to birth, motherhood and their husband's choices, while for men career break are more likely to be associated with redundancies and returning to education (Heinz 2003). Women tend to associate success with feeling of accomplishment and ability to help others, while men tend to value financial gains and advancement (Konrad et al. 2000). Goldthorpe (2016) concludes that women choose not to pursue the kinds of career that their social origins and their education would probably make available to them and, since they self-selected to part-time work, they choose to accept the downward mobility related to this type of employment.

The importance of aspirations has been shown to have a significant impact, not only in the context of gender but also more generally. Especially in the context of the recent policy move towards more personalised education (see for example Curriculum for Excellence), the process of governing one's career, and embarking on a specific, later unescapable, career path starts particularly early. As shown by Schoon and Duckworth (2012) the intention to become entrepreneurs, expressed at 16 was associated with becoming entrepreneurs in later life, and Ashby and Schoon (2010) show that young people, for whom it is important to get on in their job, earn more money in adulthood than their less ambitious peers.

Ability is another aspect, which has been shown to impact on later life labour market outcomes. Under the assumption of meritocracy, greater ability and effort made should lead to higher level of education, and would be the only factor on the basis of which people are allocated to jobs. The evidence from the previous studies indicate that the less educated people enter relatively unskilled, lower paid jobs (Bratti, Naylor, and Smith 2005). At the same time greater levels of ability are thought to be related to

better education, which forms a basis on which the individuals are allocated to different positions in the division of labour and thus acquire different level of income and status (Breen and Goldthorpe 2001, Dearden, McGranahan, and Sianesi 2004a, b, Fan 2012). However, Breen and Goldthorpe (2001) found that the importance of ability and educational attainment on individual's relative mobility chances diminish between 1958 and 1970 cohorts. The evidence from the study conducted by Galindo-Rueda and Vignoles (2002) also indicates that the effect of cognitive ability on educational attainment has decreased, pointing to the educational system in Britain becoming less meritocratic.

These findings are in line with the growing body of evidence in support of the educational inequality (a gap in achievement by family background), which put into question the meritocracy assumption. The evidence indicate that children from poorer background have worse educational attainments (Blanden and Gregg 2004, Goodman, Gregg, and Washbrook 2011). Galindo-Rueda and Vignoles (2005) find a decline in the importance of ability, proxied by cognitive skill tests taken at age ten or 11, in explaining educational performance, in part because low ability children with high economic status experienced the largest increases in educational attainment. Moreover, the children of educated or wealthy parents who scored poorly on the early cognitive development scale, have a tendency to catch up, whereas children of worse off parents, who scored poorly, were extremely unlikely to catch up and are shown to be the at-risk group (Feinstein 2003). Milburn et al. (2015, p.3) also argues that "lower-skilled advantaged children are blocking the success of higher-skilled disadvantaged children through hoarding of opportunities". Since educational qualifications are a strong determinant of later life income and opportunities, such achievement gaps create a major obstacle to social mobility (Goodman, Gregg, and Washbrook 2011).

2.4.2 Social Factors

Growing evidence with respect to educational inequality, indicate that ability cannot be analysed in isolation from the family background. As rooted in the Bourdieuan distinctions between economic, social, and cultural capital, the advantage can be

gained by familiarity with attitudes and aesthetics, arising from the membership in a specific social group. This has been recognised by Willis (1977) in seminal study entitled 'Learning to Labour: How Working Class Kids Get Working Class Jobs'. This work demonstrated how socialisation during early stages of life course reproduced social class positions on an example or working class "lads". This reproduction is thought to be an effect of holding cultural values in which educational success is given low priority, or result from the lack of consideration of education as potential route to employment, due to financial hardship it would entail (Furlong 1993). The importance of parents in children development has been continuously confirmed by more recent studies, pointing to the importance of economic capital. Children from poorer backgrounds have lower educational attainments (Blanden and Gregg 2004, Bratti 2002, Goodman, Gregg, and Washbrook 2011), earn less as adults, and are less likely to be in employment (Blanden, Hansen, and Machin 2010).

The importance of non-economic influences has also been confirmed. Several emblematic studies show that mother's expectations at age 10 are positively related to daughters' labour market participation status (Flouri and Hawkes 2008), mother's non-authoritarian child-rearing attitudes are significantly related to individuals work ethic (Flouri 2004), and maternal entrepreneurship has a positive influence on daughters to become self-employed (Greene, Han, and Marlow 2013). People born to younger mothers are less likely to achieve higher level qualifications (Pevalin 2003), and fathers' job loss affects the economic outcomes of their children (Gregg, Macmillan, and Nasim 2012).

Although these studies incorporate into their analysis younger and younger generations, little change has been observed. Bynner and Joshi (2002) confirm that these inequalities have been persistent in the UK in both 1958 and 1970 cohort and in urban as well as rural areas. Bukodi, Goldthorpe, and Kuha (2017) show that levels of social fluidity are essentially unchanged across the British cohorts. These findings indicate that social background has to be accounted for when studying labour market outcomes. Otherwise, the successful careers can be mistaken as a result of merit, and

not as a result of the advantage offered to those from more privileged background, in the form of social, cultural and economic capital.

2.4.3 Geographical Factors

In addition to individual and social factors, geography also plays an important role in shaping access to employment and training opportunities (Green, Shuttleworth, and Lavery 2005, Green and White 2008) and therefore shapes social mobility trajectories. Social mobility chances vary across areas and, evidence from United States indicates that the probability that a child reaches the top quintile of the national income distribution starting from a family in the bottom quintile is 4.4% in Charlotte but 12.9% in San Jose (Chetty et al. 2014). This is reflected by the recent policy approaches, which recognise that issues such as worklessness are local, and solutions to tackle these issue should be developed at local level (Green, Atfield, and Adam 2013). As stated in the Taylor (2017, p.26) "where individuals are geographically or occupationally immobile, this reduces the choice of jobs available to them and poses additional barriers for those people who want a different job."

In the economic theory this is explained by existence of 'slack' labour markets in which the jobs are scarce, and 'tight' labour markets, where there are more jobs than workers. Thus, for example, in the slack labour markets many people will be performing jobs for which they are overqualified (Crowley-Henry 2013). In contrast, tight local labour markets, characterised by low levels of unemployment, can channel people into high status careers (Green, Hoskins, and Montgomery 1996). The nature of the labour market depends on the historical times, as well as the characteristics of the place, as elaborated upon below.

Geographical literature mainly focuses on the importance of the characteristics of place and their impact on people's lives. This importance is supported by the voluminous literature concerned with neighbourhood effects, which highlights that living in deprived neighbourhood has negative impact on various economic and social outcomes. For example, Van Ham and Manley (2009) show that living in deprived

neighbourhoods is negatively correlated with labour market performance, Atkinson and Kintrea (2001) show that those in deprived areas were less likely to be in work, and Atkinson and Kintrea (2004) argue that the experiences of deprivation may be more entrenched and fatalistic in deprived areas. Although some studies argue that this effect is related to employers discriminating against people from deprived neighbourhoods, Tunstall et al. (2014) find no evidence of such discrimination in the UK.

There is also a growing, but still relatively small, body of longitudinal studies addressing the impact of initial life conditions on later life labour market outcomes. These studies also highlight that living in deprived areas during childhood is associated with social exclusion during adulthood (Peruzzi 2015). For example, Chetty and Hendren (2016) compare the outcomes of children from families who move to better neighbourhood with those already living there, and find evidence that intergenerational mobility improves in proportion to the time they spend growing up in that area. Bosquet and Overman (2016) investigate the links between birthplace and wages in later life, showing that there is a significant positive effect of birthplace size on wages. The impact of geography is not limited to wage. For example, Flouri and Ereky-Stevens (2008) show that even after controlling for a range of social and individual factors, the neighbourhood quality affected the school leaving age.

Those with weaker academic qualification are thought to be disproportionately affected by neighbourhood effects (Rice 1999, Green, Shuttleworth, and Lavery 2005). As graduates are more educated and geographically mobile than their less educated counterparts (Abreu, Faggian, and McCann 2015, Faggian, Rajbhandari, and Dotzel 2017b) their job searches occur on broader geographical level, as discussed in more detail in the following section. Nevertheless, the place where they grew up can affect their attitudes to job search in later life. For example, as noted by White and Green (2011, p.54)

> "a young person who exhibits a strong, parochial, attachment to place is far more likely to consider training and employment options available within the

> territory which they identify with, to the active exclusion of other wider opportunities, than one for whom attachment to place is less strong."

Their study also highlights the interplay between geographical and social factors in stating that "this parochialism is embedded in wider family attitudes, often handed down from generation to generation" (2011, p.55).

There are several geographical factors, which can affect the propensity of finding employment. One of the most influential of these factors is the nature of the local industry. Most western countries are considered to be in the third stage of the Fisher-Clark model, where the majority of population is employed in the tertiary, service sector (Peneder, Kaniovski, and Dachs 2003). However, this growth of service sector occurred at uneven rates in different regions (Kaldor 1970, Keeble 1990, Van Stel and Storey 2004), creating regional disparities in, for example, the number of new jobs or the self-employment rates (Robson 1998, Henley 2017). In the UK, a major move towards service sector economy occurred during the period from 1979 to 1990, when Margaret Thatcher was the prime minister. This government's uncompromising political approach of privatisation and favouritism of the market-driven led to the substantial decline of manufacturing and production industry, which dramatically changed economic and social landscape of the UK. This has left many workers, in previously predominantly secondary industry regions, unemployed and without prospects for the future, thereby increasing regional inequality (Blanchflower and Freeman 1994). The consequences of this can be seen to this day. The recent report from Social Mobility Social Mobility Commission (2017a) concluded that many of post-industrial areas have suffered from a lack of regeneration, offering limited job opportunities and clustering of low pay, labelling them as entrenched social mobility cold-spots.

The uneven regional growth has led to social disintegration, exclusion and marginalization of the most disadvantaged. Many resident of these former industrial areas had difficulties in adapting from manual and technical activities to those required by the service sectors (Gore and Hollywood 2009), or were unable and/or unwilling to take advantage of the new opportunities (Makepeace et al. 2003), which resulted in

increased unemployment in these regions. However, Beatty, Fothergill, and Powell (2007) argue that there is another layer to this phenomenon, which they define as 'hidden unemployment'. This type of unemployment is not reflected by unemployment figures, but can be seen in the withdrawal of men into economic inactivity, in particular permanent sickness. Beatty, Fothergill, and Powell (2007, p. 1670) found that

> "the inclusion of hidden unemployment also differentiates individual coalfields more sharply. Rather than being tightly clustered with claimant unemployment rates between 2% and 5%, the inclusion of hidden unemployment widens the range to 5% - 13%. South Wales and the two North East coalfields appear especially disadvantaged on this wider measure of unemployment".

While post-industrial regions, where unemployment rates are high, failed to deliver routes to social mobility, regions where innovative sectors predominate have surged ahead, widening spatial inequalities (Teitz 2013). In the UK context, Jones and Green (2009) find that over the decade from 1997 the high-quality jobs were mostly created in already advantaged regions. Service sector has seen particular expansion in recent years. However, as this sector covers wide range of jobs from advertising interns to financial CEOs, it is internally polarised. While those working in financial sectors receive not only a sufficient salary for a good standard of leaving, but often generous bonuses, which allow them to lead the life of the super-rich elite (Irvin 2013), there is little chance of upward advancement for those in the vast majority of low-end service jobs (Ross 2008). Furthermore, higher skilled jobs have become more concentrated in cities, and lower skilled jobs have become more dispersed (Clayton, Smith, and Tochtermann 2011). Service sector is also characterised by high rates of nonstandard work. In particular, it accounts for comparatively high rates of part-time employment (Smith, Fagan, and Rubery 1998, Euwals and Hogerbrugge 2006).

The knowledge-based economy, which is of particularly relevance for graduates, has also seen an expansion. This sector of economy is characterised by greater dependence on knowledge, information and high skill levels (OECD 1997), strong links between universities and industries (Johnston and Huggins 2016), and tertiary level human capital is seen to be a crucial feature of economic growth (Faggian and McCann

2009a). The highest growth has been seen in sectors involving innovation (Moretti 2012), and graduates are crucial to these innovation process (Paul 2011, Docherty and Fernandez 2014). In the UK context, London is considered as the knowledge based economy hub, and national 'engine-room' of social mobility (Friedman and Macmillan 2017), which accounts for nearly two-thirds of all social mobility hotspots (Social Mobility Commission 2017a). However, other cities also play an important role, which is discussed in more detail in the section 2.5.1.

2.5 Facilitating Factors

Based on the labour market mismatch theories there are two strategies that are expected to facilitate graduate's success in the labour market. Firstly, the inefficient allocation of people to jobs can be explained by spatial mismatch hypothesis (Kain 2004, 1968). This mismatch occurs when job opportunities exist in different places than the people who are willing to fill the positions. For example, in England, skilled workforce shortages are more common in the south than in the north (Green and Owen 2003). This mismatch can be elevated by migration (Hensen, De Vries, and Cörvers 2009). The second reason for inefficient allocation of people to jobs is a mismatch between the skills required by the labour markets and the skills held by the labour force (Allen and Van der Velden 2001). This mismatch can be elevated by obtaining education and skills better suited to employers' needs.

Although graduates are both highly educated and highly mobile (Abreu, Faggian, and McCann 2015), and therefore expected to be capable of utilising both of these strategies effectively, the proportion of graduates working in low-skilled jobs in the UK increased from 5.3% in 2008 to 8.1% in 2016 (Taylor 2017). This creates challenges in term of job creation, and continually increasing disparities in regional grow (Faggian, Rajbhandari, and Dotzel 2017b). This section discusses the theories related to how both of these strategies can be adopted by the UK graduates, and the rationale behind the need for further research in this field.

2.5.1 Internal Migration

Graduates are especially highly mobile (Abreu, Faggian, and McCann 2015, Faggian and McCann 2009b, Faggian, McCann, and Sheppard 2007), and it can be expected that the to-be graduates and graduates, residing in areas offering them limited opportunities, would move to regions, which are likely to facilitate their social mobility. Graduate migration is particularly common between regions within the same country (Faggian and McCann 2009a), and amongst females (Faggian, McCann, and Sheppard 2007). Thus, it is the dominant process by which students and graduates select themselves into higher quality education or better jobs (Smith and Sage 2014, Bailey 2012, Rérat 2014).

Geographical studies, focusing on the facilitating capacity of migration to increase peoples' life chances, are often rooted in the 'Escalator Region Theory' (ERT), developed by Fielding (1992). This theory presented London as an 'upward social class escalator'. In order to be classified as an upward escalator a region has to meet three conditions, related to stages of the life course of the potential migrants (Fielding 1992, p. 3-4). In the first stage - stepping on the escalator –

> "the region would attract to itself many young people at the start of their working lives: in particular, it would attract young people with promotion potential, such as those with qualifications, those seeking to gain such qualifications and those who are most prepared to relocate themselves for the sake of personal advancement".

In the second stage – being taken by the escalator –

> "the region would provide the context within which these in-migrants, together with many of those born and brought up in the region, would achieve accelerated upward social mobility through movement within the region's labour and housing markets."

In the final stage – stepping off the escalator –

> "the region would then lose through out-migration a significant proportion of those who had experienced this upward social mobility. These out-migrants

> would be in the middle or later stages of their working lives or at or near retirement".

More recent literature built on this theory by recognising other big cities in the UK as second order escalators (Champion, Coombes, and Gordon 2014, Van Ham et al. 2012). Champion (2012) also builds on this theory showing that the final 'stepping off' the escalator stage sometimes occurs earlier, as the findings from this study indicate that most of the working-age people, leaving the South East, were under 30 years old.

ERT theory is especially relevant in the context of voluntary migration of students and graduates in the UK as they have promotional potential, thereby meeting the first-stage criterion of the ERT. However, this theory also presents three key limitations, which point to the need for better understanding of how graduates' migration pathways unfold over time.

Firstly, it suggests that moves to escalators are linked to early career and moves out of escalators coincide in time with retirement, which only considers a narrow range of choices. During the early stages of the working lives, graduates can either stay in escalators, stay elsewhere, or move to escalators. This implies that there would be no incentive for those with promotion potential in early career stages to move out of escalator regions. During their working lives, those who decide to move to or to stay in the escalators would irrevocably reap the rewards of this decision, gaining advantage over those who decided to stay elsewhere, and only having gained higher status, people would move out of escalator regions. Thus, the possibility of return migration prior to experiencing upward social mobility or moves to escalators in later life are not considered under the ERT. These oversimplifications can result in exclusions of the groups of migrants, who do not act according to ERT, from migration studies.

Secondly, ERT constrains individuals' decision to migrate due to economic reasons. This reasoning is logical in the context of neo-classical approach to migration, which focuses on the wage differential between geographical regions, and posits that

individuals make a monetary cost-benefit calculation. If they conclude that their life chances will be enhanced elsewhere, they migrate. However, the decisions to migrate or to stay are thought to be more multidimensional and 'fuzzy' (Warnes 1992) and not necessarily limited to income maximisation. As noted by Sage, Evandrou, and Falkingham (2013b, p. 738)

> "parochial focus on labour-motivated graduate migration (usually to first employment), and the absence of data enabling individual migration histories to be traced longitudinally across the post-student phase of the life course, has masked the complexity of the patterns and processes of migration in this social group".

Furthermore, existing studies show that many students choose to stay at home (Patiniotis and Holdsworth 2005), due to practical difficulties (Holdsworth 2006), financial constraints (Christie 2007), and familiarity with the place (Hinton 2011), which gives them location specific insider advantage (Fischer and Malmberg 2001). Those who move, do so out of the desire for independent living (Warnes 1992), and to gain capital and skills needed to enter labour market (Smith and Sage 2014). Previous studies show that the familiarity with the place might discourage students to out-migrate (Hinton 2011), but they might be driven out by the inability to access equivalent higher education opportunities locally (Wiers-Jenssen 2008, Brooks and Waters 2009). At the same time, university in the destination region may offer better qualifications (Mazzarol and Soutar 2002), while the uncertainty related to the unknown can act as a deterrent.

The economic reasons for migration in later life stages are commonly researched, and include accessing employment or improved terms and conditions of employment (Fielding 2012), and are related to job changes or job quality (Jones and Green 2009). Less voluminous strand of literature investigates non-economic reasons for migration in later life. Conradson and Latham (2005), in their typology of New Zealand tertiary educated migrants to London, distinguish between reasons related to career progression opportunities, to progression of the career in a direction not previously explored, to experience a different social and cultural milieu, and to experience of living within a different culture. In addition, previous studies suggest that migration is

often promoted by events such as divorce, widowhood and retirement (Evandrou, Falkingham, and Green 2010, Waldorf and Do Yun 2016), and leads to increased risk of economic instability and lifestyle changes in the year following the move (Geist and McManus 2008). This wide range of non-economic drivers behind migration decisions can obscure the complexity of migration processes, which provides additional rationale behind the need for more understanding of graduate migration beyond the assumption of the ERT.

The final of the limitations of the ERT theory considered in this thesis relates to its lack of attention for age graded life roles. This theory aligns with the traditional view of stable careers and career success, which has been discussed in previews sections of this review. However, with the more recent moves away from such traditional views, the role of the timing of life requires re-evaluation. The importance of the dimension of time in geography has already been promoted by Hägerstrand between the late 1950s and 1980s with the development of time geography (King 2012). Time geography highlights the importance of individual biographies, which has strong connections to the life course paradigm adopted in this thesis, as later discussed in section 3.2, and is reflected in more recent studies of migration. Hjälm (2014) highlights that any given individual constantly negotiates migration decisions, regardless of whether they decide to move or to stay, and Carling (2002) argues that the decision to migrate is a two stages process, which comprises of having (1) the aspiration and (2) the ability to migrate. Thus, the outcomes of these evaluations can vary according to their life stages (Smith, Finney, and Walford 2016). For example, someone who aspires to live in a place, which offers greater level of entertainment during early adulthood, might prefer to live in a safer and quieter place during retirement. Similarly, the ability to move is also varies over time. People in later stages of life are thought to have greater financial resources, which can enable longer-distance moves. However, they are also more likely to have children when older, which might act as a retention factor.

Amongst others, these three limitations of the ERT, led to the recognition of the need for more holistic perspectives on inter-connectedness between career and migration

across life course (Geist and McManus 2008). In response to this need, Findlay et al. (2015) developed a framework, which "mapped a shift from researchers analysing a single migration event, to adopting life course theory to explore the fluidity of modern day mobility trajectories" (p.392). It draws on the life course theory to distinguish six types of migration: temporary, lasting, oscillating, complex, lagged, and anticipated. This typology recognises that: the practice of migration is not necessarily equivalent to the event of migration; the decisions to move are constantly negotiated by individuals; and that the consequences of these decisions are not necessarily immediate, everlasting, or equivalent for all. These links between internal migration and life course are also highlighted in the recent book "Internal Migration: Geographical Perspectives and Processes" (Smith, Finney, and Walford 2016). It states that

> "for the study of economic migration of young adults to London, there is a need to profile: 'who' these individuals are; 'where' they originate; 'when' the migration occurs in the life course; 'why' employment is seen as accessible through migration and 'where' this fits within the labour market structures" (p. 176).

These aspects are addressed within the empirical investigation conducted in Chapter 7.

2.5.2 Higher Education

In the UK, government policy recognises education as a key route to social mobility (Bathmaker, Ingram, and Waller 2013), as the evidence shows that the returns to undergraduate degree are around 21% for men and 39% for women, as compared to otherwise identical individuals who had the opportunity to gain higher education, but did not (Blundell et al. 2000). This indicates that gaining higher education can be beneficial. Thus, it can be seen as an alternative, and yet complementary to migration, strategy. If utilised by graduates effectively, it is expected to facilitate their progress.

The facilitating capacity of education is conceptualised in social stratification literature by the Origin-Education-Destination (OED) triangle developed by Blau and Duncan

(1967) and shown in Figure 2.3. The OED triangle recognises that, in addition to the direct effect of the socio-economic origin on the socio-economic destination, there is an indirect effect, which is mediated by educational attainment. Goldthorpe (2016) further develops this theory presenting three versions of the OED triangle. The first - liberal - version, where OE and OD associations are weakening, and ED association is strengthening, implying meritocratic selection, increasing social fluidity and presenting education as key to social mobility. In the second, most commonly confirmed by the empirical research, version OE and ED associations are weakening, and there is no change in the OD association. In this version the implications for social fluidity are indeterminate. The final version, in which there is no change in any of the associations over time, implying constant social fluidity.

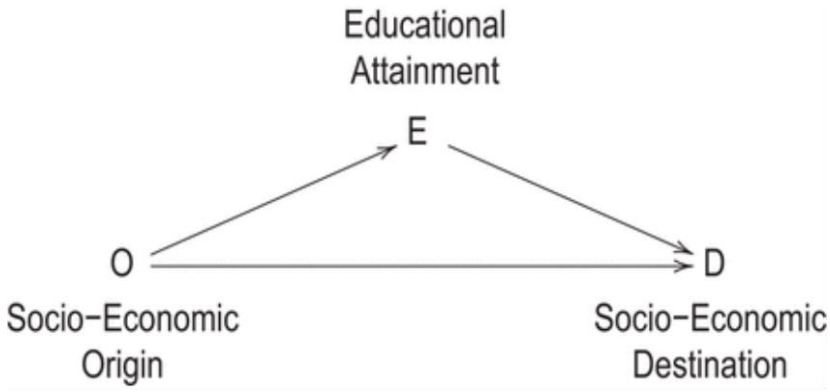

Figure 2.3 Mobility triad

S***ource: Pfeffer and Hertel (2015, p. 146))***

Many previous studies apply this theory, and the findings in the graduate context indicate that the direct effect of socio-economic origin is weaker for those with higher education qualifications, implying that more meritocratic selection criteria apply in the graduate than in non-graduate labour markets. Hout (1988) argues that college graduation cancels the effect of background status, and Breen and Jonsson (2007) show that expanding the educational system helped to reduce the association between class origins and class destinations. There is also evidence from the UK in support of this phenomenon. As shown by Iannelli and Paterson (2007) for Scotland, as by Goldthorpe and Mills (2008) for Britain, once education is included in the model the

effect of social origin decreased but does not disappear. Iannelli and Duta (2018) also find strong parental background differences in school leavers' employment status and type of occupation entered, which are only partly explained by curriculum choices. As stated by Crawford, Dearden, et al. (2016 p. 253)

> "young people from poorer backgrounds are, on average, less likely to go to university than their richer peers. Even among the selected group who do go to university, they are less likely to attend the highest status institutions, less likely to graduate, and less likely to achieve the highest degree classes. These differences in degree outcomes contribute to the lower average earnings of graduates from poorer families, but earnings differentials go well beyond those driven purely by degree attainment or institution attended. The evidence strongly suggests that, even after taking these factors into account, graduates from affluent families are more likely to obtain a professional job and to see higher earnings growth in the labour market."

The benefits associated with the vertical effects of the level of education has been widely recognised (see for example Dearden, McGranahan, and Sianesi 2004a, Dearden, Sianesi, and Blundell 2005), and more recent debates shifted towards the horizontal, rather than vertical, differences. These differences relate to the quality of higher education, rather than the level of education achieved. In this respect, the predominant notion, termed 'Effectively Maintained Inequality' (EMI), posits that once particular level of schooling becomes universal, "the socioeconomically advantaged seek out whatever qualitative differences there are at that level and use their advantages to secure quantitatively similar but qualitatively better education" (Lucas 2001 p. 1652). This theory can be seen as an extension of the 'Maximally Maintained Inequality' (MMI), which postulates that "overall class differences in educational attainment (…) simply became less consequential because the educational system expanded to the point where it could afford to be less selective" (Raftery and Hout 1993 p.41). Boliver (2013) tested the MMI and EMI hypothesis, concluding that both of these mechanisms operate in the British higher education system maintaining social class inequalities.

There are three main aspects of the horizontal differences in higher education. The first one relates to the degree grade. While graduate jobs often require first or upper second

degrees, previous studies show that the impact of the degree grade on one's life chances is limited. For example, Smetherham (2006) shows that those with first class degrees have some positional advantage in the labour market, but also highlights that there is a significant degree of variation in their outcomes, while Dolton and Vignoles (2000) reject the hypothesis that graduates with better degree results are more productive and hence will earn more. This may be related to inconsistencies in the grading system, attributed to grade inflation (Bachan 2017) - the tendency to award progressively higher academic grades for work that would have received lower grades in the past, subjective norms of evaluation (Ecclestone 2001), differences in the ranking of the grading faculty members (Sonner 2000), or differences between high- and low-grading university departments (Sabot and Wakeman-Linn 1991).

The second aspect of these horizontal differences relates to the field of study. Ballarino and Bratti (2009) argue that during higher education expansion, the field of study became a key determinant of university graduates' labour market success. However, the evaluation of the consistency of the results with respect to the field of study is challenging, as many existing studies apply different and/or broad categorisations. Walker and Zhu (2011), in the investigation of higher education qualifications on the earnings, conclude that Law, Economics and Management (LEM) subjects continue to offer high returns for men, and all subjects continue to do so for women. Britton et al. (2016) show that Medicine, Economics, Law, Maths and Business deliver substantial premiums over typical graduates, while Creative Arts delivers earnings typical of non-graduates. The literature evaluating the field of study also offers some support for the EMI hypothesis. While LEM subjects are considered as effective in delivering social mobility, children from privileged backgrounds are more likely to choose rewarding subjects, such as Law and Medicine (Werfhorst, Sullivan, and Cheung 2003, Reimer and Pollak 2009, Jacob, Klein, and Iannelli 2015). They are also more likely to study academic subjects such as English, Maths, Sciences, and Languages at school, which puts them in an advantaged position when applying for entry into higher education (Iannelli, Smyth, and Klein 2016). The capacity of Science, Technology, Engineering and Mathematics (STEM) to deliver social mobility is less clear (Britton et al. 2017).

For women, Education, Economics, Accountancy and Law, and the 'other social sciences' offer higher returns (Blundell et al. 2000).

Third characteristics of the horizontal differences between the degrees relates to the prestige of the degree awarding institution. Previous studies confirm social inequalities in the access to prestigious institutions (Egerton 2007, Boliver 2013, Chetty et al. 2017), as universities have become more socially unrepresentative than they were a decade ago (Social Mobility and Child Poverty Commission 2013). Britton et al. (2017) show that prominent London-based institutions are better at delivering the lower income households students to the top of the earnings distribution. Boliver (2013) shows that inequalities in enrolment in 'Old' universities proved persistent throughout the educational expansion. The results from Scotland indicate that educational expansion led to greater participation of the most disadvantaged, nevertheless it was limited to the lowest-status institutions, providing further support for the EMI hypothesis (Iannelli, Gamoran, and Paterson 2011).

Based on the previous studies, the emergent portrayal of the role of education in a career appears to be somewhat divergent. These divergent perceptions on the role of education highlight the need for more understanding. On one hand, education is seen as 'the great equaliser' (Torche 2011), explaining away the effect of social origin (Sullivan et al. 2018) This optimistic view supports the notion that education bringing together students from wide socio-economic background, offering them more equal chances in the labour market upon graduation. Thus, educational attainment can compensate for the disadvantaged origin.

On the other hand, the less optimistic view supports the idea of credentialism, which perceives the quality of one's certificate as a proxy for the level of merit of the certificate holder (Chillas 2010), which is then used to sort graduates into jobs reflecting their qualification (McLean and Rollwagen 2010). University credentials, in particular, have been seen as offering a high degree of legitimate correspondence between education and work (Smetherham 2006). However, as children from more advantaged backgrounds are better able to decode the implicit 'rules of the game' and

better negotiate their way through educational careers (Aschaffenburg and Maas 1997), they are more likely to obtain the most highly demanded certificates (Crawford, Gregg, et al. 2016). As these certificates are the dominant labour market mechanism, which allocates graduates to jobs, the reciprocal relationship between the social status and the access to credentials reinforces social inequalities. Thus, the educational system, instead of equalising graduate's life chances, exacerbates their initial differences in social status.

2.6 Concluding Thoughts

In conclusion, links between the substantial body of existing knowledge discussed in this chapter and the research questions listed in the previous chapter are drawn. The main areas of concern present in the social mobility debates, discussed in section 2.2, have to an extent been addressed by the broader, yet more theoretical, boundaryless career literature, discussed in section 2.3. This mutually complementary nexus of knowledge has the potential to alleviate the limitation present in both of these strands of literature. This gap prompted the development of RQ1, which asks: what are graduates' typical intra-generational social mobility trajectories, and to what extent can they be explained by different types of career pathways? This question is addressed empirically in Chapter 5.

As discussed in section 2.4, path dependence theory indicates that the context in which early lives unfold is crucial for later life outcomes. However, the studies focused on individual attributes tend to overestimate the capacities of human agency, while the studies focused on structural constraints appear to treat individuals as stuck within the structures from which they originate. In particular, the geographical context related to the local labour market opportunity structures has not been given warranted consideration. This gap has led to the development of RQ2, which asks whether the relationships between the career pathways and social mobility trajectories can be explained by the attributes and circumstances observed in graduates' early life? This question is addressed empirically in Chapter 6.

Furthermore, as discussed in section 2.5, graduates are educated and mobile, and therefore expected to develop strategies, which would facilitate their success within the context of their careers. This expectation is based on the ERT, which posits that young people with promotion potential would move to escalator regions, as well as the OED triangle theory, which suggests that certain fields of study and particular higher education institutions can better facilitate social mobility. In order to test these assertions RQ3 and RQ4 were developed, which ask about the role of internal migration and higher education in the context of different career types for graduates' social mobility. These questions are addressed empirically in Chapters 7 and 8, respectively.

Chapter 3 Peeling the Layers of the Research Onion

"Many social science research questions can be adequately answered using cross-sectional data. Most social science research projects can be improved by incorporating suitable longitudinal data. Some social science research questions can only be sensibly answered using longitudinal data."

(Gayle and Lambert 2018, p. 2)

3.1 Introduction

In the previous chapter conceptual framework has been developed, which frames the research questions posited in the introduction. This chapter provides rationale behind the choices made with respect to the design of the study, methods, approaches, and data selection. The main body of this chapter is structured in six sections, which correspond to the layers of the research onion (Sauders, Lewis, and Thornhill 2003 p. 108), adapted in this thesis as shown in Figure 3.1. The research onion approach allows for gradual consideration of the choices available, starting from the broad research philosophy to the specific techniques and procedure, and therefore provides a comprehensive guide for the justification for the decisions made in the process of conducting this research. Each section describes the rationale behind the choices made at each stage of the research process, and therefore corresponds to each of the layers of the research onion.

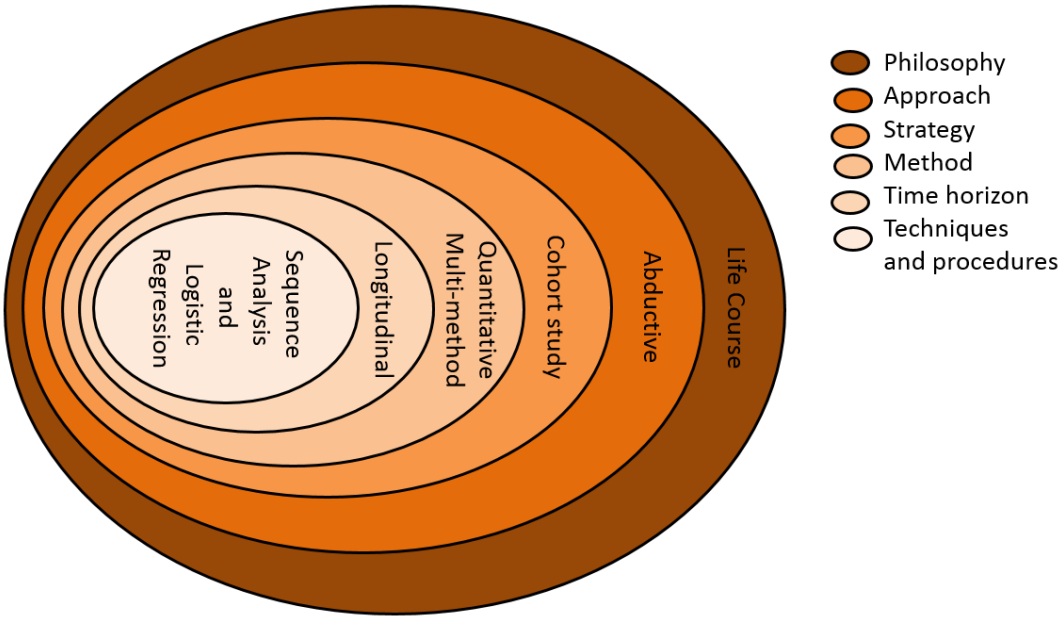

Figure 3.1 Research onion

Source: adapted from Sauders, Lewis, and Thornhill (2003, p.108)

3.2 Life Course Paradigm

The outer layer of the research onion corresponds to an over-arching research philosophy, describing the assumptions about the way in which the world is perceived. This thesis adopts a life course paradigm, which emerged as a "theoretical orientation that guides research on human lives within context" (Elder, Johnson, and Crosnoe 2003 p .10). This view is predominantly concerned with the unfolding of human lives, which is grounded in a contextualist perspective (Elder, Johnson, and Crosnoe 2003). This paradigm is particularly suited to address question about career. This is because the definition of career, as well as its interdisciplinary nature, are explicitly addressed within this paradigm. All of the research questions posited in this thesis, especially RQ1, ask about graduates' careers. Defined as "an unfolding sequences of any person's work experiences over time", career is inherently a life course concept, linking roles across the life course (Elder, Johnson, and Crosnoe 2003). Furthermore, Arthur (1994, p. 287) stated that, during the 1970's, one of main

> "contribution[s] was to establish the career as a focus for interdisciplinary study. Psychology, sociology, anthropology, political science, economics and so on could all be harnessed for the extra contribution they brought to our composite understanding of how careers unfolded."

However, as noted by Elder, Johnson, and Crosnoe (2003 p. 7)

> "[…] careers are based on role histories in education, work, or family. Though readily applicable to multiple domains of life, these models most often focused on a single domain, oversimplifying to a great extent the lives of people who were in reality dealing with multiple roles simultaneously."

As the concept of career lies at the intersection of several disciplines, and since life course paradigm crosses these disciplinary boundaries, it is particularly suited to provide an overarching perception to study of careers.

There are four principal elements to life course paradigm: timing of lives, location in time and place, linked lives, and human agency (Elder 1998). The first component of life course theory, the timing of lives, reflecting the age-graded sequences of life roles. Elder (1998, p. 3) explains this principle as "developmental impact of a succession of life transitions or events [that] is contingent on when they occur in a person's life". In this thesis, an individual life course is perceived as a dynamic process, developing over time, consistent with path dependence theory. As a result, each life stage is a consequence of previous experiences and provides a lead-in to the next ones. In particular, the distinction between the early and later life made in section 2.4, reflects this component of the life course theory. Typically, age 16 separates these two life stages, as this age denotes the end of one's compulsory education (Bradley and Lenton 2007). Until then the observed individuals' trajectories are equivalent. Past this age, the educational and employment careers start to diverge, and the differences between them can be observed. This distinction is addressed with the RQ2, which asks about the extent to which factors observed during the early life stage shape graduate's career during the later life. Thus, RQ2 predominantly and explicitly reflects the timing of lives.

The second component concerns the location in historical times and place. By locating individual in the historical context this component of life course paradigm provides a link between the structural factors, and individuals' experiences (Elder 1998). This aspect is, for example, addressed by Kupperschmidt (1998), who shows that the historical times in which Generation X (born between 1961 and 1981) grew up exposed them to changes in every aspect of their lives, which make them more likely than previous generation to change jobs and careers if their demands are not met. Viewed from geographical perspective, especially the location in place is vital for understanding of the interrelationships between people and places. In geographical studies, life course perspective is crucial (Bailey 2009), and the field has not yet reached its full potential (Mayer 2009). The implication of the location in place on individuals' life courses is also reflected by the RQ2, especially with regard the extent to which geographical factors shape one's life course. In addition, the impact of the location in place is also addressed by RQ3, which asks about the role of student's migration in the context of their careers for their social mobility. Findlay (2011 p. 162) highlights the importance of linkages between migration and places, stating that "student migration, like other forms of "knowledge migration", is not (…) a neutral process, but one that may benefit some people and places while at the same time disempowering others." Thus, the location in time and place component of the life course paradigm provides a link between individuals and the places, needed to address the questions posited in this thesis.

Linked lives is the third component of the life course paradigm. Elder (1998 p. 4) defines this component as "lives [that] are lived interdependently, and social and historical influences are expressed through this network of shared relationships". This component accounts for the social relations, as one of the forces shaping life course. There is a sizable body of literature, which mainly addresses the concept of linked lives with respect to three main social groups: parents (see for example Greenfield and Marks 2006), partners (see for example Bailey, Blake, and Cooke 2004), and children (see for example Macmillan, McMorris, and Kruttschnitt 2004). While this research recognised that the partnership and parenthood dimensions of life course contribute to

shaping life course, these are not addressed by the research questions specifically. However, the linked lives between the family of origin and the individual is addressed RQ2, as the influence of parental social class on one's career and social mobility trajectory is examined. As discussed in section 2.4.2 parental social class forms a bridge between social structures and one's behaviour (Kohn 1963), and therefore this element is incorporated to capture the parent-children socialisation link.

The final component of life course theory, human agency, "states that individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstances." (Elder 1998 p. 4). There are, however alternative interpretations of this component (for details see Hitlin and Elder Jr 2006). The recognition that the divergent life courses are a partial consequence of individual characteristics is addressed in RQ2. However, the perception of individuals as following their own path through life, is particularly vital to RQ3 and RQ4. These questions ask about the role of education and migration within the context of a career for social mobility, based on the assumption that individuals make decisions regarding their geographical location and well as their educational trajectories, which cumulatively construct their careers, and these are expected to impact on the levels of success achieved in later life. Thus, the recognition of human agency as an independent entity operating within the social and geographical structures is central to this thesis.

Thus, life course paradigm is particularly suited to answer questions regarding careers, their causes and consequences. The concepts of timing of lives and human agency allow for evaluation of individuals as entities making their own decision, which are narrated by their age-graded life roles. In addition, the concept of linked lives and the location in time and place recognise that social and geographical structures can create circumstances, which facilitate or impede on the decisions made by human agency. Thus, life course offers an overarching theoretical perception, which allows for addressing the research questions posited in this thesis.

3.3 Abductive Approach

Sauders, Lewis, and Thornhill (2003), in the development of the concept of research onion, specify two research approach choices: deductive, aimed at testing the theory and inductive, aimed at building the theory. However, they also recognise that this rigid division is misleading. However, the research onion framework dismisses an alternative - abductive - approach. Abduction was first defined by Charles Sanders Peirce, who refers to the process of studying facts and devising a theory to explain them (Cunningham 1998 p. 833). Dubois and Gadde (2002 p.559) highlight that abductive approach is fruitful "if the researcher's objective is to discover new things", and Kovács and Spens (2005 p.138) state that "abductive approach leads to new insight about existing phenomena by examining these from a new perspective". As deductive approaches are limited in terms of the degree of novelty of conclusions it can deliver, and inductive approach does not incorporate the knowledge gained during the process of the review of literature, the abductive approach was identified as best suited to meet the aims of this research.

Kovács and Spens (2005) conceptualise this approach as shown in Figure 3.2. The first stage of the abductive process links prior theoretical knowledge to the derivations of real-life observation. While this approach does not necessarily require any prior theoretical knowledge, it is impractical to conduct research without a thorough literature review and a formulation of key ideas first (Barbour 2001). Thus, in the first stage of this research a review of literature has been conducted.

The second stage involves what Kovács and Spens (2005) define as a 'learning loop', in which prior theoretical knowledge forms a basis for the derivation of empirical observations, which in turn shape the development of the theory. This approach has been deemed most appropriate, as it became apparent in the early stages of the research that the focus on long-term outcomes conflicts with the viability of primary data collection, and therefore secondary data would be used. An advantage of the use of secondary data in abductive approach has also been advocated by Cowton (1998, p. 429), who states that

> "an over-reliance on published research for providing ideas for new studies might lead to an undesirably narrow and somewhat incestuous development of the literature. Other sources of inspiration are needed, and secondary data are particularly useful because by their very nature they contain the seeds of the solution to the question that they stimulate in the mind of the researcher".

Thus, the second stage of this research process involved a learning loop, during which the feasibility of secondary datasets to address the gaps highlighted in the literature review was examined, and the theories surrounding these gaps were refined based on the data availability, until a balance between testable theories and their operationalisation was struck. Once the most pertinent and testable theories were selected, and the datasets were identified, the final stage of the research involved testing these theories and forming conclusions regarding the extent to which they can be confirmed in the context to graduates' careers.

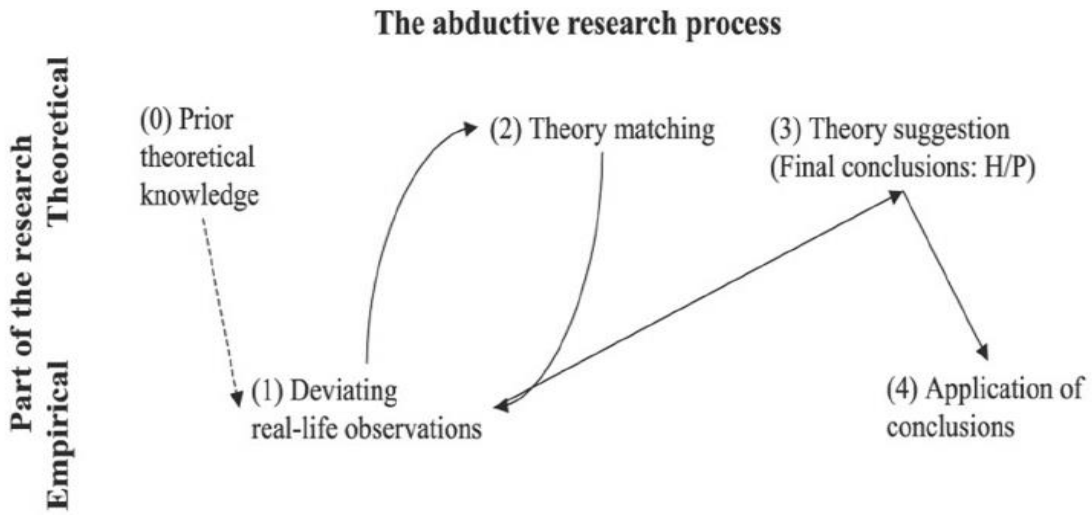

Figure 3.2 The abductive research process

S***ource: Kovács and Spens (2005 p.137)***

3.4 Cohort Study

The third layer of the research onion addresses the choices of research strategies, which stretch across a broad selection including surveys, experiments, grounded theory, action and archival research, to name a few (Sauders, Lewis, and Thornhill 2003). The research questions posited in this thesis ask about the nature of graduates' social

mobility trajectories and their career routes (RQ1), the impact early life has on their formation (RQ2), as well as the role education and migration play in these careers (RQ3 and 4). Thus, cohort study design has been identified as the most suited strategy to answer such questions. This section provides a rationale behind this selection.

The term 'cohort' describes a common group that is being studied (Gayle and Lambert 2018). Such studies are common in a variety of disciplines (Kuh et al. 2003), but have their origins in epidemiology, which classifies them as an example of analytical, observational study, as shown in Figure 3.3. Analytical studies, in contrast to descriptive studies, quantify the association between a predictor and an outcome variable, and in observational studies the investigator is only involved passively in collecting data on exposure followed by outcomes assessments (Aslam et al. 2012, Mann 2003). Cohort consists of a number of entities, usually people, who share common experiences during a specified period of time. The term is most commonly associated with birth cohorts (Glenn 2005).

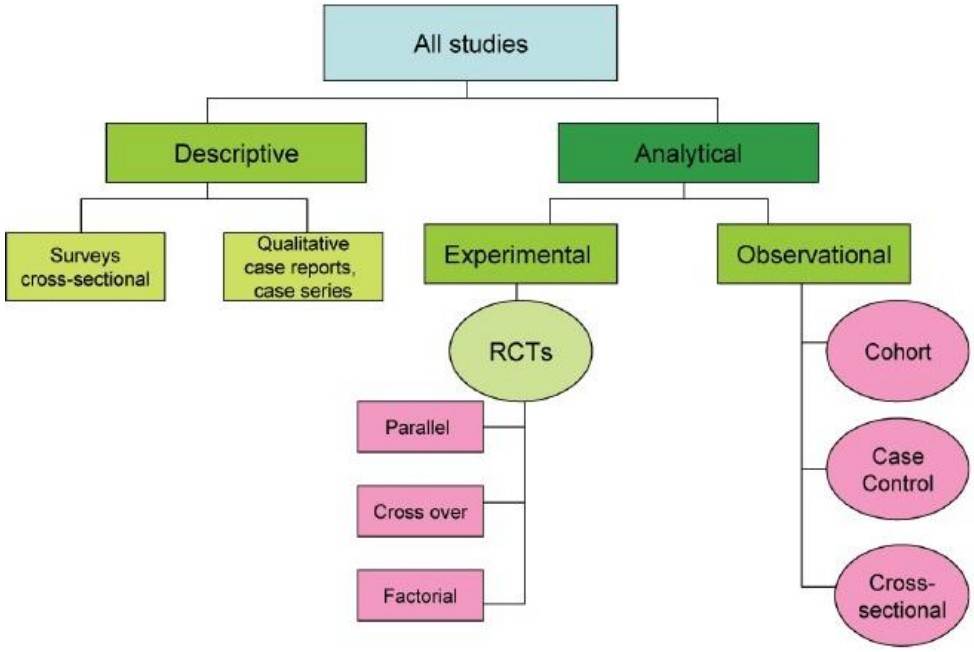

Figure 3.3 Overview of research study designs
Source: Aslam et al. (2012 p. 50)

Such strategy has been identified as the most appropriate to answer the research questions posited in this thesis for several reasons. Firstly, cohort studies measure events in temporal sequence (Mann 2003), reflecting the concept of career, as well as the notion of timing of lives. Thus, a career can be best operationalised with such sequential data. Secondly, individual-level data are required to study careers, consistently with the definition of the concept. Cohort studies usually follow a number of individuals born at the same time (Glenn 2005). Thus, cohort study data can be linked over time in order to reconstruct social mobility, migration, and employment careers on individual level. Thirdly, such design can be best suited to investigate the impact of place on career development, addressed in RQ2. This is because birth cohorts live in the same historical time, and are the same age in the same period. The limited variation arising as a result of the lack of age and period effects (Bell and Jones 2013) can help to isolate the effect of place. Furthermore, as cohort studies are expensive to develop, establish, and maintain (Martin et al. 2006), they offer opportunities for investigations unattainable within the budgetary limitation of this research. Lastly, cohort studies are suitable to study change. As already noted by Ryder (1985, p. 844)

> "[…] cohorts provide the opportunity for social change to occur. They do not cause change; they permit it. If change does occur, it differentiates cohorts from one another, and the comparison of their careers becomes a way to study change."

As this research aims at gaining better insights into graduates' career during the era of educational expansion, these insights can provide a mechanism via which social change can be better understood. Thus, cohort study provides the best approach to address the aims of this research.

3.5 Multi-method Quantitative Study

The subsequent layer of the research onion relates to the selection of the method, which Sauders, Lewis, and Thornhill (2003) conceptualises as in the Figure 3.4. Within this conceptualisation, this research can be classified as a multi-method quantitative study, as it combines two methods of data analysis. In the first stage, sequence analysis is

used to derive the typologies of careers, as well as social class and migration trajectories. Subsequently the variables derived as a result of creating these typologies are used in a set of logistic regressions, in order to quantify the relationships developed in the conceptual framework. Although these can be seen as techniques and procedures, corresponding to the final layer of the research onion, the rationale behind this choice is discussed in this section. An overview and a brief history of the use of sequence analysis in social sciences is presented in the first part, leading to the reasons why this method has been chosen. The rationale behind the choice of logistic regression and the modelling strategy is presented in the second part.

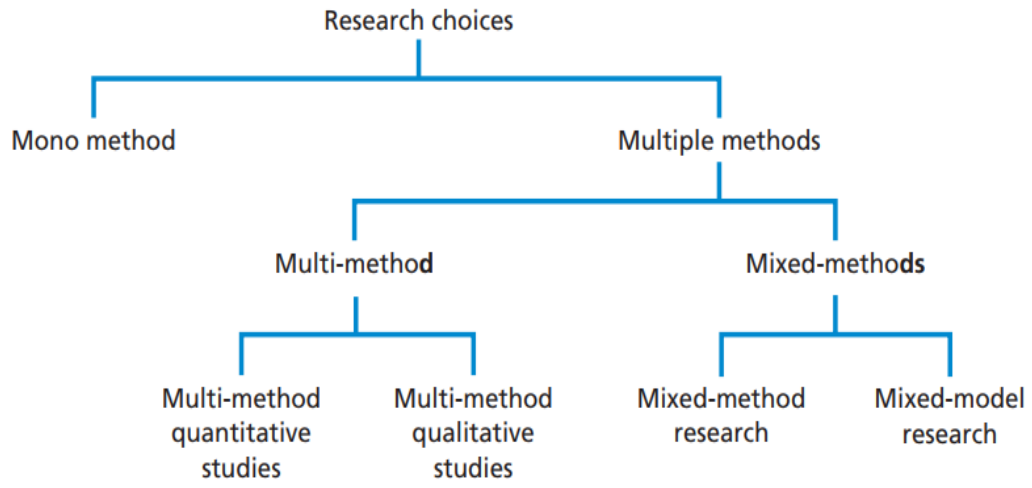

Figure 3.4 Research choices
Source: Sauders, Lewis, and Thornhill (2003 p. 152)

3.5.1 Sequence Analysis

Sequence analysis is a method of data analysis which aims at understanding the evolution, characteristic, and role of underlying processes by which the data was generated. It was developed in bioinformatics and mainly used through the 1970's to analyse DNA sequences. This standard approach typically consists of the following steps: constructing the sequences of states for each unit of analysis and defining the cost of transition between the states of which they comprise, quantifying the dissimilarities between each pair of sequences, conducting cluster analysis on the

matrix of these dissimilarities, choosing the best clustering solution, and finally, describing it.

1986 dates the first recorded use of this method in social sciences. Abbott and Forrest (1986) adopted the approach to investigate sequences of figures in the Cotswold Morris dances. This was followed by the "first wave" of sequence analysis literature. During this stage the technique was adapted to various context of individuals' careers, such as class status (Chan 1995, Halpin and Cban 1998), type of jobs (Abbott and Hrycak 1990), work sequences at library, PC lab and travel agency (Pentland et al. 1996), or combined variations (Han and Moen 1999, Blair-Loy 1999). The unrelated to careers application of sequence analysis during the first wave also included evolution of rhetoric in the sociological articles (Abbott and Barman 1997), historical patterns in rates of lynching in southern US (Stovel 2001), and group decision making processes (Poole and Holmes 1995). During his stage, the term sequence analysis was often used as a synonym for optimal matching algorithm.

In the early 2000's the use of this method in the social sciences was subjected to severe criticisms (Levine 2000, Wu 2000). As stated by Levine (2000 p. 35)

> "after the first few uses of new, or newly borrowed, method provide evidence that its novel frame of reference is leading in a promising direction, the bar of achievement rises. At that point, more arguments and more examples, per se, no longer advance the argument".

This gave rise to a "second wave" of sequence analysis literature, which aimed to addresses the specific criticisms by focusing on refining techniques, enriching the toolbox, and widening the selection of methods and algorithms, to better match the social context (Aisenbrey and Fasang 2010).

At this stage, sequence analysis was no longer associated only with optimal matching, but became a rich toolbox of techniques used to address various questions about processes (this is discussed in more detail by Elzinga 2003, Aisenbrey and Fasang 2007). This method is being continually developed and evaluated. For example, Studer, Struffolino, and Fasang (2018) propose a new method, which combines

sequence analysis with event history analysis, and Han, Liefbroer, and Elzinga (2017) compare the quality of solutions obtained by sequence analysis and latent class analysis. However, to date, there is no universal consensual doctrine in the approach taken to sequences analysis, and the choices depend on the focus of the researcher (Studer and Ritschard 2016).

In this study an approach based on the study conducted by Coulter and Van Ham (2013) is used. They used a series of theoretically informed rules to classify residential mobility biographies into groups. This approach can be seen as analogous to the abductive learning loop (Kovács and Spens 2005), in which the theoretical literature is used in combination with the observed data to derive the typologies of trajectories. In this thesis, the discourses surrounding the career literature, discussed in section 2.3 are used to derive the typology of careers (this is discussed in more detail by Wielgoszewska 2016). The direction and the degree of linearity of social class trajectories is used to derive the typology of social mobility. Similarly, the degree to which the observed geographical mobility trajectories correspond to the Escalator Region Theory (Fielding 1992) is used to derive the migration trajectories. This approach addresses several criticisms expressed in the literature.

Firstly, the standard use of the method has been criticised as being purely data-driven, and therefore having weak links to social theory. Abbott and Tsay (2000, p. 5) state that "OM algorithms are today conceived as less as actual models for reality than as generalized pattern-search techniques." This implies that the method is inductive in nature, and therefore prior knowledge of theory is not used. The lack of links to social theory has also been addressed by Levine (2000, p. 37), in the following statement "the theoretical base that is relevant to the use of sequence matching in biology includes 150 years of studies of evolution. […] The analogy between DNA and careers is not obvious.", and by Wu (2000, p.46), who states that "part of my scepticism stems, in part, from my inability to see how the operations defining distances between trajectories (replacements, insertions and deletions) correspond, even roughly, to something recognisably social." The standard approach can be extremely useful when no theory exists, on which the expectation can be made. However, in situations where

large body of literature has been dedicated to address a specific social phenomenon, such as the one in question, it seems unwise to ignore it. Thus, the approach used in this study has taken into consideration previous literature and theoretical knowledge, which offers better links to social theory.

Secondly, the standard approach has been criticized for being subjective. Levine (2000, p. 34) states that

> "those of us in the business of adapting or inventing methods that produce similarities, cluster analyses, and the like, including OM methods, know that almost any map or clustering of the data will begin to look reasonable if stared at long enough".

Wu (2000, p 50) expressed similar concern:

> "[…] In the worst case – that is, if results are sensitive to alternative choices of costs – then findings obtained using sequence analysis could be driven solely by one's choice of setting the various cost matrices, in ways which have little or no connection to the data."

Furthermore, as the various innovative methods developed during the second wave can offer different clustering solutions, and many conventional test statistics for the clustering cut-off criteria are not readily transferable (Aisenbrey and Fasang 2010) the standard approach can act as a self-fulfilling prophecy. Given the high subjectivity of the standard approach, the approach used in this thesis addressed this aspect explicitly. The clustering solutions obtained here are subjective and, had they been derived by a different researcher, different solutions could have been obtained. However, the typologies developed in this study are a means to achieving the aim, rather than the outcome of data analysis as such, and the typologies have been derived in order to investigate what the relationships between them are, not in order to describe them. Therefore, the intrinsic subjectivity of the process, as in the case of many operationalisations, is rationalised by plausible theoretical explanations of the clustering.

Lastly, standard approach to sequence analysis does not address both the timing and the ordering of sates in the career simultaneously. This concern has been expressed by Aisenbrey and Fasang (2010, p. 435). They state that

> "the issue of nonlinear dependencies of trajectories on time and the blindness to order are the major points of criticism because these attacks focus on an area - the ability to account for trajectories as entities that evolve dynamically over time – that optimal matching declares as its major strength".

This is to large extent resultant form the fact that the software making the computations cannot recognise the states of the sequences as embedded in the stages of the life courses, or the present as the function of the past. In this study, the timing of states and their ordering has been used as the criteria for their allocation to clusters, which addresses these criticisms.

Regardless of several criticisms discussed above, sequence analysis presents a unique tool for analysis of careers and has many advantages over other methods. Its major advantage relates to the fact that, unlike other methods, it considers whole sequence, rather than individual data points, are an input for the analysis preserving their inherent order (Abbott and Tsay 2000). It allows for comparison of holistic trajectories developed over time, rather than the situation at two time points only. It also provides a powerful tool for testing the theories on empirical data. Thus, this method has been deemed as the best choice for creating typologies of careers, as well as social mobility and migration trajectories.

3.5.2 Logistic Regression

The RQs developed in this thesis ask about the relationships between the concepts developed in the previous chapter. These relationships should be quantified by an appropriate and viable method of statistical inference. The choice of the method is guided by the mathematical distribution of the dependent variables, which in this case are typologies of social mobility trajectories and careers.

The social mobility trajectories typology was initially considered as ordinal, as it was expected that a clear gradient would be present in the data, whereby upward social mobility can be considered as superior to lateral, which in turn can be considered as superior to downward. However, it proved challenging to order the types of social mobility trajectories. This lack of order is elaborated upon in more detail in Chapter 5.

A multinomial distribution was considered as the preferred choice in the second instance, as this is the appropriate modelling technique for circumstances where a dependent variable follows multinomial distribution (Agresti and Kateri 2011). Multinomial regression was initially employed and proved challenging for several reasons. The relatively small size of the analytical sample made it impossible to include all the variables in question in the models. Further challenges related to the identification of the reference social mobility trajectory, which was driven by the lack of inherent order or most normative type, thus complicating the interpretation of the results.

There are, however, several similarities between multinomial and logistic regression. Firstly, these effects are empirically similar. The individual components of a multinomial distribution have a binomial distribution (Teugels 1990), and multinomial regression of a dependent variable with J categories, where $J = 2$ reduces to logistic regression (Germán 2007), which is suitable for modelling of binomially distributed data.. Secondly, the effects obtained with both approaches are conceptually similar. Researchers who utilise multinomial regression often report marginal effects to illustrate their results (see for example Bukodi et al. 2016, Iannelli and Duta 2018). These effects reflect differences in predicted probabilities when comparing the category of interest with all other categories. Results obtained with logistic regression, when one category of the variable is modelled against all other categories of the same variables, has similar interpretation. This choice, however, is unorthodox and carries a set of disadvantages. For example, the standard errors from a binomial logistic regression may be inappropriately deflated compared to a multinomial logistic regression. The potential mis-estimation of standard errors runs the risk of inappropriate inferences and might have an impact on substantive findings.

Nevertheless, the comparison of the results presented in chapter 5, in Table 5.2 as well the predicted probabilities shown in Figure 5.10, to the equivalent marginal effects, obtained from multinomial regression, and shown in Appendix N shows that, in this case, the same conclusions, with respect to the direction and magnitude of the effects, as well as their statistical significance, would be reached with both modelling approaches.

Logistic regression also offers several practical advantages. Firstly, this approach does not require specification of any particular reference category. Secondly, it allows for greater flexibility in modelling, as different explanatory variables can be included in models of different trajectories. Furthermore, interpretation of results from logistic regression is more straightforward. Thus, an alternative modelling strategy was developed, in which both career and social mobility trajectories were dichotomised into a set of binary variables, where 1 reflects the given type and 0 reflects all other types. These dichotomised typologies can be separately modelled with a set of logistic regressions, contrasting the probability of experiencing each type against the probability of not following this particular type, rather than a specified category.

The remainder of this section present the mathematical notation of the models fitted in each chapter. Chapter 5 aims to answer the RQ1. In the models fitted in this chapter, each of the binary social mobility variables can be denoted as Y_S where $S \in \{0,1\}$ reflecting the types of social mobility trajectories. The career typology, in this chapter, is considered as the independent variable, and its multinomialy distributed version is used, which is denoted as X_c where $C \in \{1, \dots, 4\}$. Stable careers, as the most normative and the largest in size category, are used as the reference. Equation 1 reflects the five models fitted in Chapter 5, where α is a regression constant and β_{i1} reflects vectors of regression coefficients, reflecting the relationship between the career and social mobility.

$$Log\left[\frac{P(Y_S=1)}{1-P(Y_S=1)}\right] = \alpha + \beta_{i1}X_c \quad (1)$$

Chapter 6 aims to answer RQ2, which asks about the role of early life characteristics for the later life social mobility and careers. Two sets of models are fitted to the data, reflected by equations 2 and 3. The matrix of variables reflecting early life characterises is denoted with X_E. In this chapter both the multinomial version of the career typology denoted as X_c , and the dichotomised versions denoted as Y_c are used. The regression models reflected by equation 2 provides the answers to the RQ2, while models reflected by equation 3, as well as those in equations 5 and 7, are treated as supplementary and are fitted in order to better understand the relationships between the covariates and the career types. Here, matrices β_{j1} and β_{j2} reflect the regression coefficients quantifying the impact of early life characteristics on the social mobility trajectories and career types respectively. Furthermore, β_{i2} reflects vectors of regression coefficients, which can be compared to β_{i1}, coefficients obtained in Chapter 5.

$$Log\left[\frac{P(Y_S=1)}{1-P(Y_S=1)}\right] = \alpha + \beta_{i2}X_c + \beta_{j1}X_E \quad (2)$$

$$Log\left[\frac{P(Y_C=1)}{1-P(Y_C=1)}\right] = \alpha + \beta_{j2}X_E \quad (3)$$

Chapter 7 addresses RQ3, which asks about the facilitating role of migration, in the given career type X_c, for individuals' propensity to follow a given type of social mobility trajectories Y_S. Here, the vector of migration types is denoted with X_M and, in order to investigate whether these characteristics play different roles in the different career types, an interaction terms $X_M X_C$ is also incorporated. These variables are incorporated into the previously fitted models. The two sets of models fitted to the data in this chapter are reflected by equations 4 and 5. Here β_{k1} and β_{k2} reflect the vectors of coefficients related to the impact of migration on social mobility and career type respectively, and β_{l1} reflects the vector of coefficients on the interaction term $X_M X_C$.

$$Log\left[\frac{P(Y_S=1)}{1-P(Y_S=1)}\right] = \alpha + \beta_{i3}X_c + \beta_{j1}X_E + \beta_{k1}X_M + \beta_{l1}X_M X_C \quad (4)$$

$$Log\left[\frac{P(Y_C=1)}{1-P(Y_C=1)}\right] = \alpha + \beta_{j2}X_E + \beta_{k2}X_M \quad (5)$$

The final empirical chapter - Chapter 8 - addresses RQ4, which asks about the facilitating role higher education characteristics play in the given career type X_c for individuals' propensity to follow a given type of social mobility trajectories Y_S. Here, the matrix of higher education variables is denoted with X_H. Similarly, as in the previous models, an interaction terms $X_H X_C$ are also incorporated. Thus, the two sets of models, which are fitted to the data in this chapter are reflected by equations 6 and 7. Here β_{m1} and β_{m2} reflect the matrices of coefficients related to the impact of higher education characteristics on social mobility and career type respectively, and β_{n1} reflects the vector of coefficients on the interaction term $X_H X_C$.

$$Log\left[\frac{P(Y_S=1)}{1-P(Y_S=1)}\right] = \alpha + \beta_{i4}X_c + \beta_{j1}X_E + \beta_{k1}X_M + \beta_{l1}X_M X_C + \beta_{m1}X_H + \beta_{n1}X_H X_C \quad (6)$$

$$Log\left[\frac{P(Y_C=1)}{1-P(Y_C=1)}\right] = \alpha + \beta_{j2}X_E + \beta_{k2}X_M + \beta_{m2}X_H \quad (7)$$

3.6 Longitudinal Time Horizon

The penultimate layer of the research onion relates to the choice of time horizon and distinguishes between cross-sectional and longitudinal studies. Since life course paradigm and sequence analysis both require longitudinal data, and cohort study is in fact a type of longitudinal study, this choice has been implicitly justified in the section 3.2 and 3.4 of this chapter. However, up to this point, the rationale behind the data used has not been fully presented. This section presents a comprehensive overview of UK longitudinal data and explains the rationale behind the choice of 1970 British Cohort Study.

Table 3.1 lists the UK individual-level, longitudinal datasets. As indicated in the previous chapter this study aims at the UK-wide analysis of graduates' long-term employment outcomes, during the period of expansion of higher education era. These aims were translated into fours suitability criteria, which are used for the subsequent exclusions of the longitudinal datasets. The selection is summarised in Table 3.1 and

described in more detail below. Although several studies have been excluded for the purpose of the analysis conducted in this thesis, these could offer an interesting follow-up study and should not be discarded as unsuitable.

Table 3.1 Review of the UK longitudinal studies in terms of their suitability for this research

Source	Dataset	Step 1: Geographical coverage includes the whole UK	Step 2: Enables the study of long-term outcomes	Step 3: Covers the period of higher education expansion	Step 4: Suitable sample size of graduates
UK Data Services	1970 British Cohort Study	✓	✓	✓	✓
	British Household Panel Survey	✓	✓	✓	×
	English Longitudinal Study of Ageing	×	N/A	N/A	N/A
	Growing Up in Scotland	×	N/A	N/A	N/A
	Longitudinal Study of Young People in England	×	N/A	N/A	N/A
	Millennium Cohort Study	✓	×	N/A	N/A
	National Child Development Study	✓	✓	×	N/A
	Understanding Society	✓	×	N/A	N/A
Closer	Hertfordshire Cohort Study	×		N/A	N/A
	MRC National Survey of Health and Development	✓	✓	×	N/A
	Avon Longitudinal Study of Parents and Children	×	N/A	N/A	N/A
	Southampton Women's Survey	×	N/A	N/A	N/A
Other	West of Scotland Study	×	N/A	N/A	N/A
	HESA	✓	N/A	N/A	N/A

The nation-wide coverage is required because the UK presents a specific case. This country aims at the expansion of higher education participation rates, despite the fact that much of the evidence in support of this expansion has been developed on the basis of the studies pre-dating the expansion era (Bratti, Naylor, and Smith 2006). In addition, the internal migration, addressed in Chapter 7, may be related to the moves between England, Scotland and Wales.

The longitudinal studies with only local geographical coverage were eliminated in the first step. Several studies cover only specific geographic areas of England, which restricts the investigation of the impact of place and of internal migration. These include the Hertfordshire Cohort Study, which tracks men and women who reside in the English county of Hertfordshire; the Avon Longitudinal Study of Parents and Children, which tracks children born to mothers who reside in Avon; and the Southampton Women's Survey, which interviewed Southampton women. Furthermore, several studies focus solely on the English population. These include the English Longitudinal Study of Aging, and Longitudinal Study of Young People in England. In addition, two datasets, Growing Up in Scotland and West of Scotland Study, cover only Scotland.

Secondly, this investigation is concerned with the long-term outcomes of graduates' careers and therefore a dataset is needed that covers a long period of time. Graduates remain longer in education, than their less educated counterparts, and therefore their transitions to adulthood take longer to complete (Clark 2007, Hogan and Astone 1986). In addition, as previously mentioned higher education students are also likely to delay gratification (Heslin 2005), which implies that their labour market rewards may not be immediately observed. Thus, the time span covering the employment histories should cover the period from the end of compulsory education, here considered as the start of the observed career until, at least, the mid-career.

For this reason, the studies whose participants are too young, for the long-term outcomes to be detected at the time this research is conducted, are were also excluded in the second step. This results in the exclusion of three studies: Millennium Cohort Study, which follows children born in the UK in 2000-01; the Understanding Society study, which began in 2009, and covers the period of 7 years; and the HESA Destination of Leavers from Higher Education data, which only provides information 6 months and 3.5 years after graduation.

Thirdly, it is crucial that the employment careers of the graduates developed during the era of education expansion. This expansion is considered as one of the causes of

destandardisation of careers, as it saturated graduate labour market making it more competitive. Thus, graduates' careers were likely to become more varied and complex only in the post-expansion era. However, the starting point for this expansion is hard to pinpoint in time. As shown in Figure 3.5 the rates of higher education enrolment in Britain have been increasing since 1950s, and the rate of expansion was the highest in late 80s and early 90s. 1992, which was the year when the Further and Higher Education Act was introduced, it is often recognised as the start of the expansion. Salvatori (2016) states that

> "a distinctive change in Britain since the early 1990s is the expansion in university education, which has led to a tripling in the share of graduates among employees, accounting for the entire growth in top-skilled occupations, as well as a third of the decline in middling occupations ".

However, as highlighted by Blanden and Machin (2004), the step-change in the expansion of higher education in the UK occurred earlier, already in the 1980s.

Based on this criterion, further two studies were eliminated. These are the National Child Development Study, which follows the cohort born in 1958. The participants of this study would typically graduate in 1979, which would allow them to gather 13 years of employment experience before Further and Higher Education Act was introduced, and the MRC National Survey of Health and Development, whose participants were born in 1946 was also excluded at this stage.

Lastly, the sample size of graduates needs to be sufficiently large to enable quantitative analysis. This study is particularly concerned with the discrepancies in employment careers of graduates, but also recognises the importance of a wide set of individual and geographical variables, which are expected to have an influence upon these differences in careers. Therefore, from the remaining two studies, the study with greater sample of graduates is selected. Martin et al. (2006 p. 39) show that in the original sample of BHPS, in ten year grouped cohort, only 92 men and 73 women have a degree. In addition, this Strategic Review of Panel and Cohort Studies, states that the low prevalence of the sub-groups in general population of BHPS as one of the main

limitation of BHPS. In contrast, in the most recent sweep of the BCS1970 at age 42, 2061 participants confirmed to have a degree.

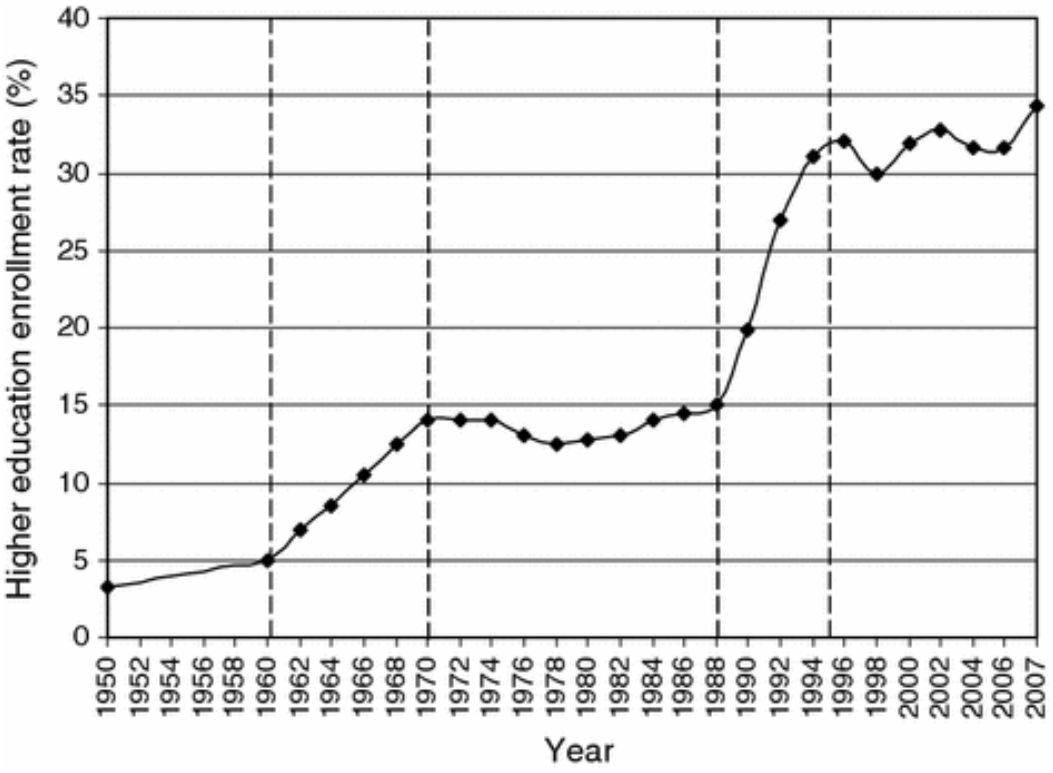

Figure 3.5 The higher education enrolment rate in Britain, 1950–2007

Source: Boliver (2013)

The above strategy has led to the selection of BCS1970 as the data most suitable for the investigation conducted in this thesis. In this study, 17287 individuals from England, Scotland and Wales, who were born in a single week of 1970 (between 5th and 11th of April), were tracked from birth through childhood and adolescence to adulthood, and information about various aspects of their lives has been collected. The surveys asked about family circumstances, health, education and social development (Elliott and Shepherd 2006). So far, the information was collected in 9 sweeps, conducted when the study members were: 0, 5, 10, 16, 26, 30, 34, 38, and 42 years of age.

Taking all of the above factors into consideration, BCS1970 is the most suitable data to answer the research questions posited in this thesis. It allows for construction of the career paths of graduates, provides a wide set of indicators explaining the early life circumstances, and allows for investigation of the higher education as well as inter-regional migration as facilitating factors of the career. This study also presents a number of advantages, which contribute to its uniqueness. Firstly, the constancy of age of the study participants over time allows for eliminating the effect of age and period. Secondly, the infrequent occurrence of retrospective measures minimises the self-serving attribution bias. Lastly, this study has been under-utilised of the study for geographical enquiry (Ekinsmyth 1996), which has later been confirmed by the review of geographical variables conducted by Feng and Dibben (2013). Therefore, BCS1970 has been selected as the most appropriate data for this investigation.

3.7 Further Techniques and Procedure

The final layer of the research onion relates to the techniques and procedures. Although these have been partially discussed in the previous sections of this chapter, there are several additional aspects, which are justified in this section. These relate to the sample and model selection, as well as the approaches developed in order to deal with the missing data and to predict probabilities on the basis of the models fitted and are detailed below.

3.7.1 Sampling

For the purpose of consistency and comparably, all analysis conducted in this thesis is based on the same sample. Otherwise, the changes in the coefficients resulting from the different sample size could be mistaken for the effects of the variables to explain the variation in the dependent variable. The decisions made with respect to the samples are shown in Figure 3.6 and are discussed below. The final sample on which the analysis is conducted includes 1080 graduates.

The aim of the initial sampling was to select graduates. However, in longitudinal studies reflecting national cohorts not every person is likely to graduate at the same

time. Therefore, the information from the most recent sweep at age 42 was used to draw the initial sample. The sampling was based on the highest academic qualification up to age 42, and includes both those with degree and those with higher degree (N=2497).

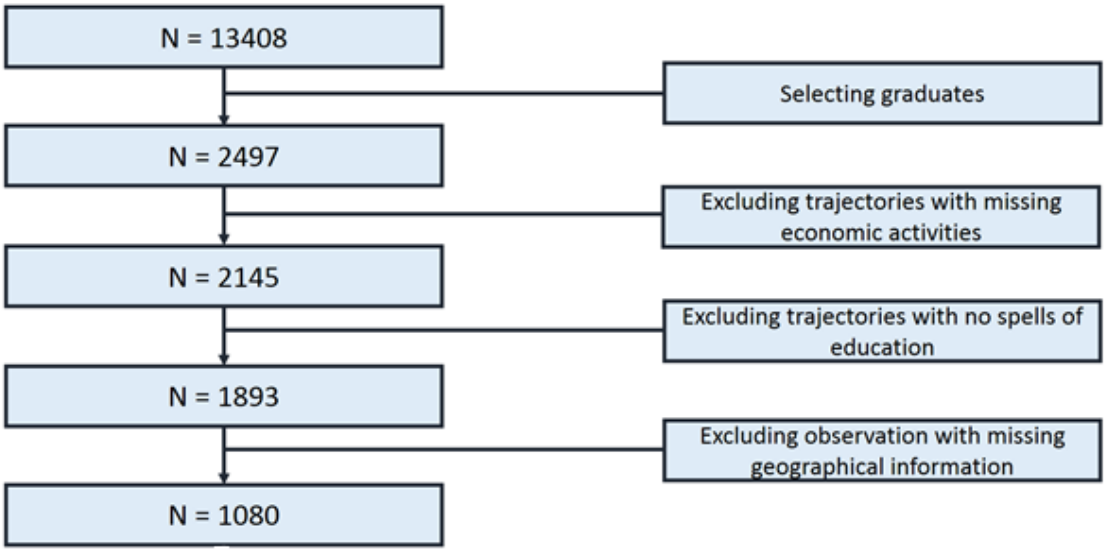

Figure 3.6 Sampling decisions

Source: own compilation based on BCS1970

Subsequently, their economic activity trajectories were reconstructed. As shown in subsequent chapter in Figures 4.2 and 4.3, these trajectories include missing spells. Although there are several approaches to dealing with missing data developed in the literature, "all methods, no matter how sophisticated, rest to some extent on unverifiable assumptions, owing to the simple fact that the missing data are unobserved" (Ibrahim and Molenberghs 2009, p.40). In this instance, the missingness has been partially addressed by complete case analysis. This is because longitudinal data are prone to missingness in the ways cross sectional data are not (Halpin 2012), and standard approaches to handling missing data are not directly translatable to the longitudinal context. In this particular case, all sequences use the same calendar time axis, and all graduates have been present, and therefore alive, in most recent sweep in order to be included in the sample. Therefore, the most likely reason why this missingness occurs is nonresponse, which yields internal gaps (Gabadinho et al. 2011,

p.12). There are several approaches to handle missing state sequence data, particularly useful when optimal matching is used, when the clustering aims at the most valid inference. However, for the rule-based approach described in section 3.5.1, all individual information is needed in order to allocate a sequence into a type with certainty. Therefore, sequences with missing data are excluded from further analysis. As noted by Halpin (2012, p.8)

> "discarding incomplete cases can be particularly costly in terms of reduced sample size and loss of representativity. […] Not only are incomplete sequences distributed differently from complete, but they are concentrated among the "interesting", high entropy sequence where there is a lot going on".

While the reduced sample leads to limitations of this analysis, the analytical sample does not vary systematically from the overall sample of all graduates, as later shown in Chapter 4. Therefore, the complete cases sample can be considered as representative of graduates, nevertheless. After the deletion of the cases with missing economic activity histories the sample size has been reduced to N=2145.

The following two decisions, which result in the reduced sample size, are related to the derivation of explanatory variables. Firstly, even when considering the complete activity histories, for some graduates a spell of education was not detected in their economic activity history. This could occur because only the main activity is recorded in the economic activity histories (Hancock 2017a). Thus, if graduates undertook their studies as secondary activities, while in another main activity, their educational spells would not have been detectable. An alternative explanation for this is data entry mistakes. Since the educational spells are required to derive the longitudinal characteristics of education, namely the frequency of spells and the age at last transition out of education, the spells of education ought to be present in the trajectories of all graduates included in the sample. Having deleted the sequences with missing educational spells the sample size was reduced to N=1893. Subsequently, the same principle was applied in the case of migration typology variable. In order to classify cohort member's geographical location trajectory to a type, the information must be available from all sweeps. As shown in Figure 4.8 in the following chapter this

information is complete only for 1080 case, and these cases are considered as the final analytical sample.

Although less missingness would likely have increased the confidence regarding the conclusions reached in investigation, there is a limited influence a researcher has on this aspect in the case of observational studies. Furthermore, while an approach for multiple imputations in sequence data has been developed (Halpin 2012), it is yet to be validated, and the concerns related to the lack of representability are addressed in the following chapter. Although the analytical sample is relatively small in comparison to the overall sample of graduates, it should be noted that it is not an intention of this research to generalise the findings to graduates in the 1970 birth cohort, the 1970 cohort in general, or to any other cohort. Instead, the aim of this investigation is to gain better insights into the longitudinal aspects of graduates' life course, on a sample of a cohort of graduates, and to quantify the relationships described in the conceptual framework chapter for the given example. In order to ensure that the analytical sample is representative of the sample of graduates, the distributions of all of the variables used have been compared across the samples, as demonstrated in the following chapter. As the systematic deviation between the full sample of graduates and the analytical sample is limited, complete case analysis was considered as the most appropriate approach for this research.

3.7.2 Multiple Imputations by Chained Equations

As already indicated in the previous section, one of major methodological problems in longitudinal studies is data missingness, and longitudinal data are prone to missingness in ways cross-sectional data are not (Halpin 2012). In cross sectional surveys the main causes of missingness include unit or item non-response, invalid responses, data entry errors and disclosure issues. In longitudinal studies attrition and longitudinal linkage add to this list. In the 1970BCS the attrition rates vary at different time points, and are especially low during the postal survey conducted when the participants were age of 26, as shown in Figure 3.7. Although these values show the number of participants present in each of the sweeps, it does not mean that the same participants were

interviewed at each sweep, or that they provided any or valid answers to the questions asked. Therefore, when only valid information is linked longitudinally across sweeps, the missingness rates are even higher.

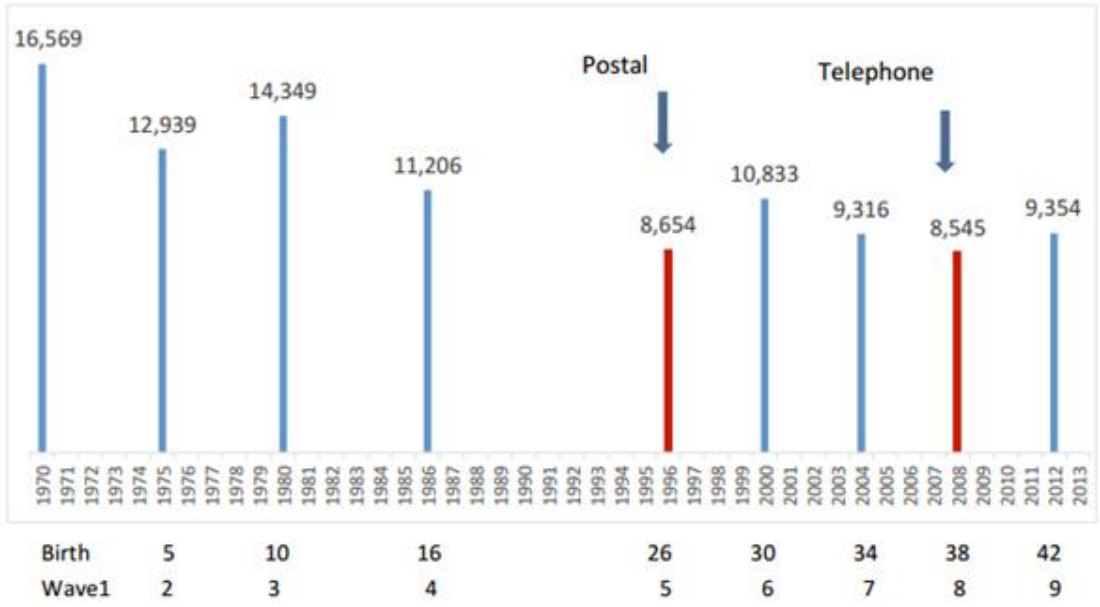

Figure 3.7 Sample sizes in the different waves of BCS1970

Source: Mostafa and Wiggins (2015, p.135)

The most advanced and appropriate way of dealing with missing data in inferential analysis to date is multiple imputations by chained equations (Stuart 2015). The aim of multiple imputations is to obtain valid statistical inferences accounting for the missing data. This method, however, is incapable of predicting the individual values themselves (Graham 2009 p. 559). Therefore, this method has only been applied in for the imputation of covariates, and in order to obtain reliable estimates of the relationships between variables, not in order to predict the states in the sequence of economic activities or migration trajectories. The three main steps of this method are shown in Figure 3.8. Firstly, the incomplete data are imputed using chained equations. This means that missing values are imputed by modelling each variable as a function of the other variables in an iterative procedure, which results in *m* complete datasets. Secondly, the statistical analysis, logistic regression in this case, is conducted on each

of the imputed datasets separately. In the final step, the results are pooled across all datasets, accounting for the within-imputation and between-imputation variance. As this method exhibits several advantages over the alternatives, it has been chosen for this study

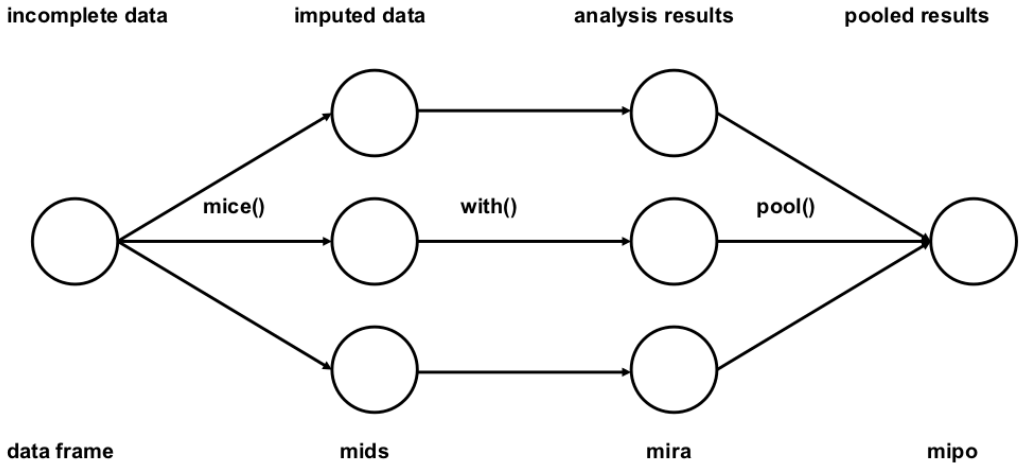

Figure 3.8 Main steps in used in multiple imputation

Source: Buuren and Groothuis-Oudshoorn (2011, p. 5)

In this study, multiple imputations were conducted using 'mice' package in R (Buuren and Groothuis-Oudshoorn 2011). Consistent with the recommendations of White, Royston, and Wood (2011) and (Azur et al. 2011), the interaction terms with present missing values, and which are of primary interest for this investigation were included in the imputation model. These are the interaction terms between the career typology and migration typologies, analysed in Chapter 7, as well as between the career and education, analysed in Chapter 8. The histogram of missing data and patterns of the missingness present in the final dataset used for imputations are shown in the Figure 3.9.

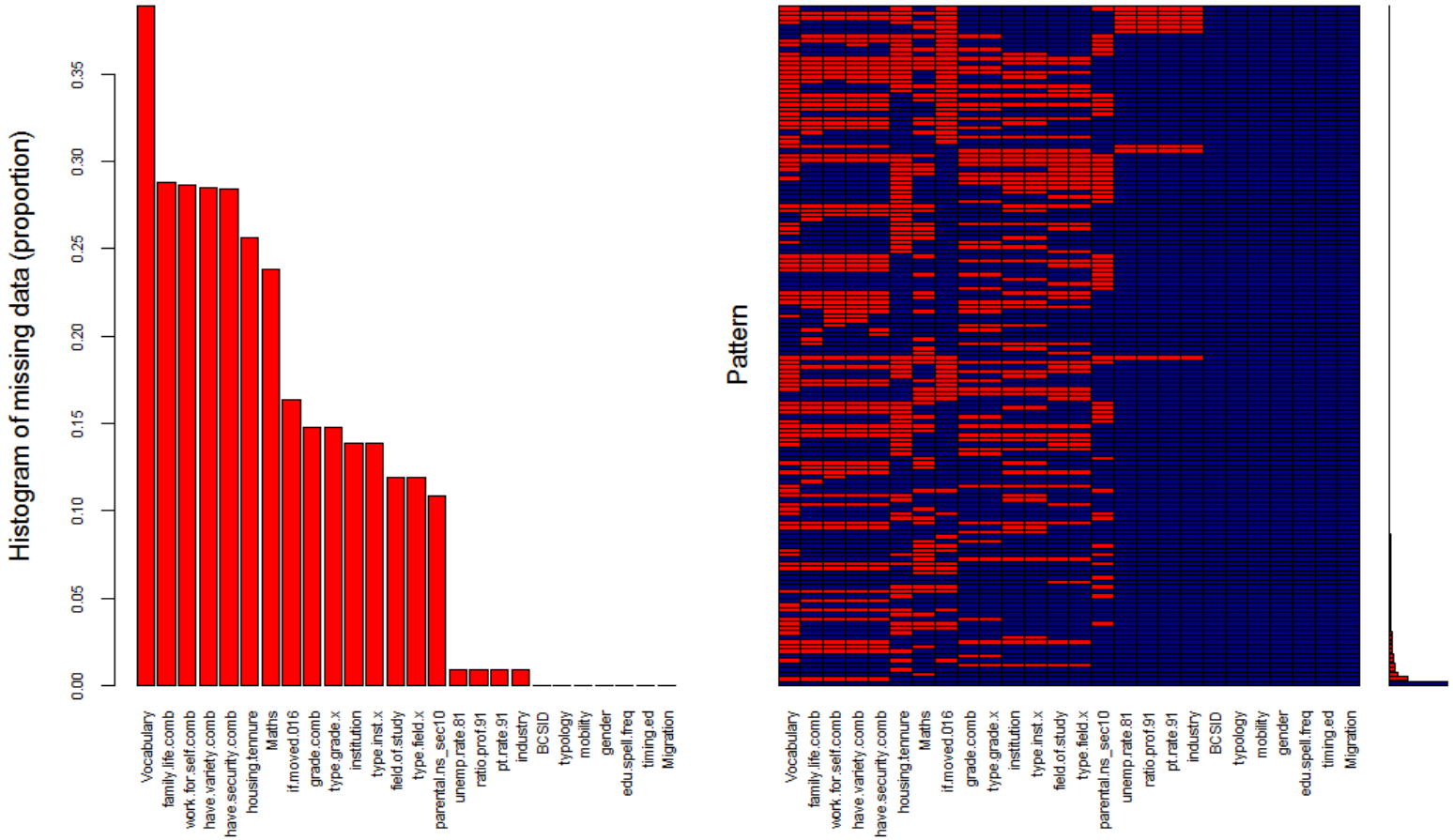

Figure 3.9 Pattern of missingness in the derived dataset

Source: own compilation based on the BCS1970 (analytical sample

Final decisions related to the number of imputed datasets to be created and number of iterations to be conducted for each of these datasets. Literature with formal recommendations on how to choose the optimal number of imputations is scarce (Twisk 2013 p. 230). However, "in most situations there is simply little advantage in producing and analysing more than few imputed datasets" (Schafer and Olsen 1998 p.549). In order to strike the balance between the reliable results and reasonable computational time, 10 datasets are imputed. The number of iterations is also set to 10, as "a low number of iterations (say 10–20) is often sufficient" (Buuren and Groothuis-Oudshoorn 2011 p. 2).

3.7.3 Model Selection

It should also be noted that, in order to gain a better understanding of the relationships between the variables and in order to investigate the sensitivity of the effect to the modelling strategy, careful model selection was conducted. Typically, model fit indicates, such as AIC or BIC, would be used for the model selection. However, as the models fitted to each of the imputed datasets are not nested, the model fit statistics cannot be pooled across the results. Therefore, the statistical significance of the respective coefficients was used as a criterion for the model selection instead. This process is summarised in Figure 3.10 and described below.

In chapter 5 only social mobility is modelled as a function of career types. Therefore, the dichotomised versions of the social mobility variables are treated as the dependent variables, and the categorical variable denoting the career type is the only explanatory variable. These models are denoted throughout as M0, and since the coefficients in this model are significantly different from zero, the explanatory variable is carried forward to the following chapter.

In chapter 6, the variables denoting the characteristics observed in early life are incorporated into M0. In the first instance, each of the variables is added to M0 as additional predictor. Later, all variables are added to M0 simultaneously. This strategy is also incorporated to two separate subsets of the data – females and males. Four

supplementary models are also incorporated, in which the dichotomised versions of the career typology variables are treated as the dependent variables, and characteristics observed in early life are incorporated as explanatory variables. Several variables which have been incorporated as based on the theory, did not significantly explain a given the social mobility trajectory type. Thus, if the coefficient corresponding to the given variable was not significantly different from zero in any of the fitted models for the given social mobility type in the given chapter, the variable has been excluded from further models. If the variables exhibit statistical significance, they are carried forward to the model in the following chapter, denoted throughout as M1, while the variables which do not exhibit statistical significance are excluded from further analysis.

In Chapter 7, for each of the dichotomised dependent variables, the variable denoting migration typology is incorporated into M1. In addition, the interaction between the migration typology and the career typology is also incorporated into the social mobility models. If the main effect and the interaction terms are significant, the variables are kept for further analysis. If only the main effects are significant, the interaction term is excluded. If both the main effect and the interaction terms are not significantly different from zero, the variable denoting migration type is excluded. The models, which include only the significant variables are carried forward to the following chapter and denoted throughout as M2. The supplementary models of separate analyses by gender were not conducted in this chapter or thereafter, due to small sample size in some of the cells, which resulted in predicted probabilities of 0 or 1, as described in section 3.5.2. While some of the level of the variable could have been omitted from the analysis, this was not done for two reasons. Firstly, the small samples are usually in the categories which are of direct interest for the study, and the insights gained from the research questions asked in this thesis would not be obtained otherwise. Secondly, removing observations from analytical sample would impede comparison of the coefficients across chapters. However, as shown in Appendix K, and elaborated upon in section 9.6.2, gender differences exist in the analytical sample used for this research, and such analysis is considered as a potential avenue for future research, which ought to be based on bigger samples of graduates.

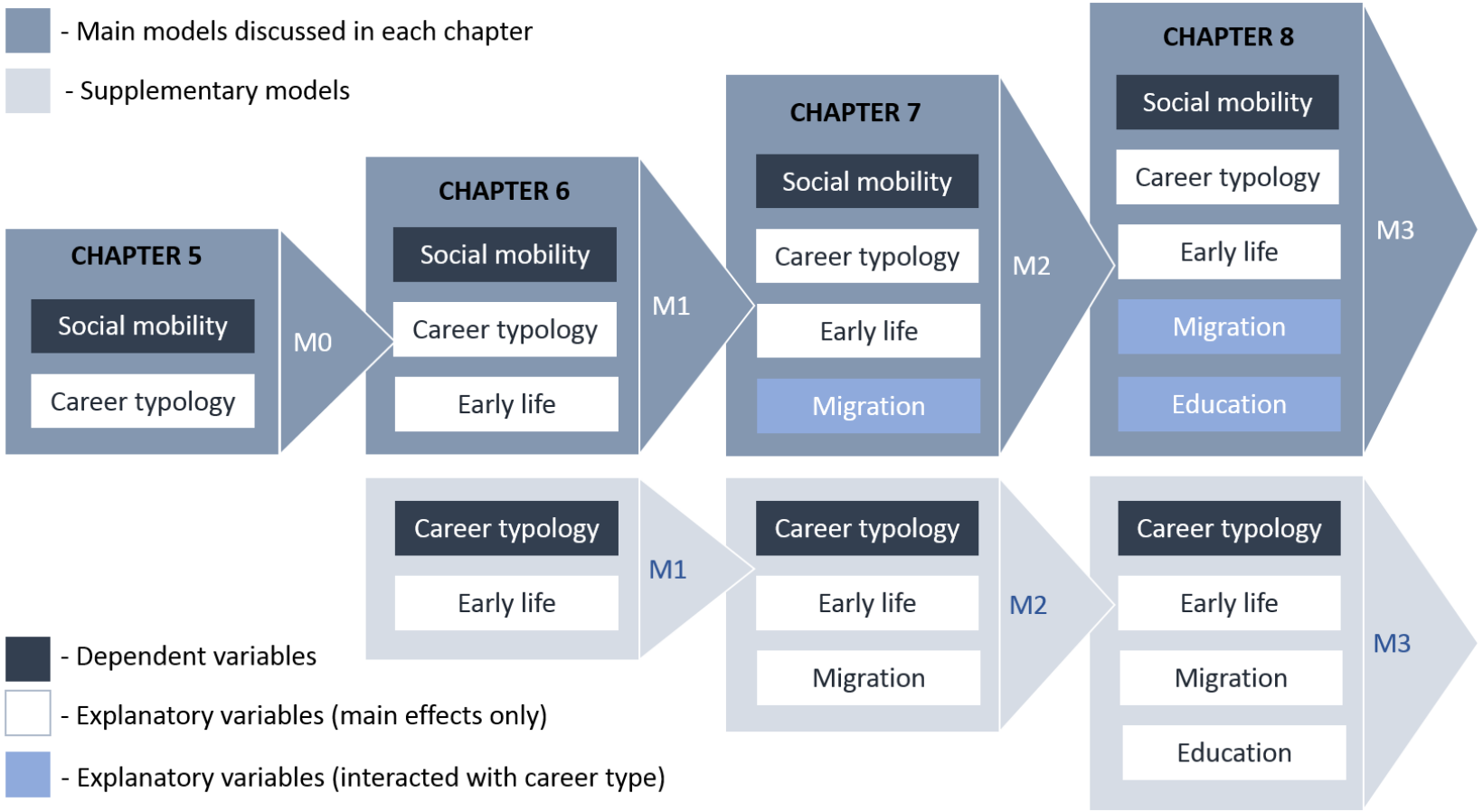

Figure 3.10 Summary of modelling strategy in each of the empirical chapters

Source: own compilation

In chapter 8, the variable denoting the five educational characteristics, and their interaction with career typology are incorporated into the model of social mobility. These variables are also incorporated into the supplementary models. The final models, denoted throughout as M3, include only the variables displaying some degree of statistical significance.

3.7.4 Predicting Probabilities

In order to facilitate the interpretation of the results, in addition to tables showing the results from the analysis conducted in this thesis, the predicted probability plots are presented in each empirical chapter. These probabilities are computed on the basis of the final models, which include only the variables exhibiting some level of statistical significance, labelled as M0, M1, M2, and M3. While the plots depict the difference in probability for the variables which were varied in order to compute them, all other variables were held constant when conducting the prediction, either at the level all the reference category in the case of categorical variables, or at the level of the arithmetical mean in the case of continuous variables. This prediction is always conducted within the observed ranges of the continuous variables.

3.8 Concluding Thoughts

This chapter presented the methodological choices made in this study, and the rationale behind them. This approach was conceptualised in the form of research onion proposed by Sauders, Lewis, and Thornhill (2003), taking the reader through the decisions made at each stage of the research process. In summary, the life course paradigm is considered as an overarching research philosophy, as it can guide the research questions posited in this thesis. The study was conducted using abductive logic, the main component of which is a learning loop (Kovács and Spens 2005). This helped to strike the balance between theory and practice. Cohort study was considered as the most suitable strategy to address the research questions, as it offers a number of advantages over other strategies. In particular, it is considered as the most useful approach to study the change in individual's situation over their life course, which this

study aims to achieve. Quantitative multi-method approach was used for this purpose. This approach allows to draw statistically valid conclusions with respect to the individual's outcome, taking their whole career as a unit of analysis. The BCS1970 was considered as the most appropriate dataset, since it allows for the UK-wide analysis of graduates' long-term employment outcomes, during the era of educational expansion. An analytical sample of 1080 graduates who participated in the BCS1970 was used for the analysis. The typologies of social mobility, career, and migration trajectories were derived by the use of sequence analysis, using only complete cases. This is because the currently available approaches of dealing with missing data cannot predict the given value when it is missing. However, amongst the available approached of handling missingness, multiple imputation by chained equations can help to obtain the most valid statistical inferences accounting for the missing data, and therefore it was used to tackle further missingness. This was followed by statistical inference using logistic regression. These procedures allowed to quantify, and determine the significance, magnitude and direction of the relationships between the concepts developed in the conceptual framework, thereby providing answers to the research questions stated in Chapter 1. The following chapter discusses in more detail how the measurements of these concepts were derived.

Chapter 4 Measurements

"While the individual man is an insoluble puzzle, in the aggregate he becomes a mathematical certainty. You can, for example, never foretell what any one man will be up to, but you can say with precision what an average number will be up to. Individuals vary, but percentages remain constant. So says the statistician."

Arthur Conan Doyle

4.1 Introduction

The previous chapter presents the methodological decisions and the rationale behind them. However, the question on how to measure the concepts discussed in Chapter 2 until now remains unanswered. This chapter details the approaches taken to operationalise the measurements of these concepts. As discussed in section 3.6 data extracted from BCS1970 are used for this purpose. This study consists of several datasets, which correspond to the surveys conducted when the participants were at different ages. In addition, there are several datasets, which are harmonised across all sweeps. These datasets are listed in Table 4.1 below. The measurements were derived using different datasets, based on the stage of life of interest for the given measurement.

This chapter is structured as follows. The first section of this chapter details how the longitudinal measurements were derived. These include intra-generational social mobility, career pathway typology, two measurements of the early life conditions, a typology of migration during adulthood and two measurements of higher education. The second section details how the static measurements were operationalised, which include several early life measures, as well as three additional measurements of higher education degree. In addition, for each of these measurements the difference in the distribution is evaluated for the whole sample of cohort members available from the

given dataset, as compared to all graduates and the analytical sample, as defined in section 3.7.1. The final section concludes. The variables detailed in this chapter are used in the inferential analysis in the subsequent chapters of this thesis, in order to answer the research questions posited in Chapter 1.

Table 4.1: Datasets used for the derivation of variables

Study used to derive the measurements		Longitudinal measurements					Static measurements	
SN	Study Description	Social Mobility	Career Typology	Early Life	Higher Education	Migration	Early life	Higher Education
2666	Birth and 22-Month Subsample, 1970-1972	N/A	N/A	✓	N/A	N/A	N/A	N/A
2699	Five-Year Follow-Up, 1975	N/A	N/A	✓	N/A	N/A	N/A	N/A
3723	Ten-Year Follow-Up, 1980	N/A	N/A	✓	N/A	N/A	✓	N/A
3535	Sixteen-Year Follow-Up, 1986	N/A	N/A	✓	N/A	N/A	✓	N/A
3833	Twenty-Six-Year Follow-Up, 1996	N/A	N/A	N/A	N/A	N/A	N/A	✓
5558	Twenty-Nine-Year Follow-Up, 1999-2000	N/A	N/A	N/A	N/A	N/A	N/A	✓
5585	Thirty-Four-Year Follow-Up, 2004-2005	N/A	N/A	N/A	N/A	N/A	N/A	✓
6557	Thirty-Eight-Year Follow-Up, 2008-2009	N/A	N/A	N/A	N/A	N/A	N/A	✓

Study used to derive the measurements		Longitudinal measurements					Static measurements	
7473	Forty-Two-Year Follow-Up, 2012	N/A	N/A	N/A	N/A	N/A	✓	✓
6943	Activity Histories, 1986-2008	✓	✓	N/A	✓	N/A	N/A	N/A
5537	County Data, 1986-2012: Special Licence Access	N/A	N/A	✓	N/A	✓	✓	N/A

4.2 Longitudinal Measurements

Many of the concepts operationalised in this study are designed to measure a change over time. These measurements add to the understanding of the dynamics of the various aspects of the graduates' life course. For example, the intra-generational social mobility measures the change in person's social class, career pathways measure the change in their economic activity, and migration measures the change in the geographical location. These three measurements were mainly operationalised by the use of sequence analysis, as described in the section 3.5.1, because this method captures the sequencing inherent in the individual level data, which reflects the nature of one's life course, as discussed in section 3.2.

4.2.1 Intra-generational Social Mobility

The direction and linearity of social mobility are incorporated as a proxy of success because, consistently with the idea of meritocracy, the most successful people are expected to work in occupations related to the highest social class. However, measuring social class is not straightforward task, because of the changing over time perceptions of what the concept of class entails. On conceptual level, as pointed out by Clark and Lipset (1991, p. 397), "New forms of social stratification are emerging.

Much of our thinking about stratification –from Marx, Weber, and others – must be recast to capture these new developments." On pragmatic level, although more adequate measurements have been developed to reflect these 'new forms', these are not always available from secondary datasets. Despite this, Connelly, Gayle, and Lambert (2016, p.10) strongly advise researchers to "use existing occupation-based measures that have agreed on and well-documented standards".

In order to measure social mobility a measurement of social class needs to be first defined. Historically, there have been several measures of socio-economic status applied in the UK context, such as Registrar General Social Class (RG), Socio-economic Group (SEG), Cambridge Social Interaction and Stratification Scale (CAMSIS), and Erikson-Goldthorpe scheme (EGP) to name a few. The discrepancies in the measurements of social class provoked numerous debates about their validity, reliability and conceptual basis (for discussion of these see Galobardes, Shaw, Lawlor, and Lynch 2006, Rose 2005).

In 1994, the Office for National Statistics (ONS), commissioned the Economic and Social Research Council (ESRC) to undertake a review of government social classifications, which resulted in the development of the National Statistics Socio-Economic Classification (NS-SEC), which is currently the recommended classification scheme (Rose and O'Reilly 1998). This classification was designed to replace the existing measures of social class, and is now used in all official statistics and surveys in the UK (Galobardes, Shaw, Lawlor, Lynch, et al. 2006).

In comparison to previously used measures, this classification has several advantages. Firstly, it has been constructed to measure the employment relations and conditions of occupations, and has theoretical and conceptual basis (Goldthorpe 2004). Second appealing feature of NS-SEC is its flexibility. The measure provides several collapsible, nested categorisations –full, reduced, simplified and analytical – which can be adapted to the context of research and the detail of information available. Moreover, it has been subjected to numerous validation research, which confirms its suitability as a predictor of life chances (Pevalin and ROSE 2002). For example,

Chandola and Jenkinson (2000) investigates the associations of the NS-SEC with a well-validated health outcome measure, concluding that NS-SEC shows significant social class differences in health, and providing further evidence for its construct validity. Moreover, as stated by (Goldthorpe 2016, p. 91),

> "[t]he strength of NS-SEC lies in the degree to which it differentiates individuals in terms of their economic situation, which it does to a greater extent than would a focus simply on their incomes. NS-SEC is in fact quite strongly associated with income level. But, in addition, it is also associated with three other important aspects of individuals' economic lives: income security, short-term income stability, and longer-term income prospects".

While the advantages of the use of NS-SEC are appealing, this measure has only been available since 2001, when the BCS1970 cohort members were 31. This highlights an additional complication that the longitudinal studies suffer from, the need for harmonised measure over time. As the objective of this study is to measure the change in social class over time, the classification scheme needs to be consistent. In addition, it would be desirable to have the same classification scheme for individual's social position as for their parental backgrounds, so as to enable more direct comparison.

While several measurements of social class are available from BCS1970 in the respective datasets, only two of them are consistent across all sweeps in the economic activity histories. These are: Activity social class '91 (RG), and Activity SEG '91 (for details see Hancock 2017a). Both have consistent classification across time, and direct comparison to parental social class is possible in both cases. The main limitation of both of these measures is that they do not address the expansion of service level jobs and the decrease in manual occupations directly (Galobardes, Shaw, Lawlor, Lynch, et al. 2006, Rose, O'Reilly, and Martin 1997).

While NS-SEC is preferred for the reasons stated above, the decision on which classification scheme to use in BCS1970 is limited to these two choices. The choice of measure should be dependent on which measure can be better translated into NS-SEC. More specifically, which measure offers a higher level of internal homogeneity (Prandy 1999), allowing for better reclassification and aggregation. While RG

distinguishes only between six level levels (I Professional occupations, II Managerial and Technical occupations, IIIN Skilled occupations non-manual, IIIM Skilled occupations manual, IV partly-skilled occupations, V Unskilled occupations), SEG distinguishes between 20 categories, listed in Table 4.2. Furthermore, SEG has been used to form a basis for the derivation of NS-SEC, which implies more direct link between these two measures. As stated by Rose, O'Reilly, and Martin (1997 p.4) "since SEG captures the essential elements of a truly social scientific SEC quite well, it offered a sound starting point for a new SEC."

This study therefore uses SEG classification, which is converted into the simplified version of the NS-SEC. This translation was based on the observed frequencies as well as the theoretical rationale, and several previous studies, which performed similar conversion. These similar conversions can be seen in studies conducted by Goldthorpe and Jackson (2007) (Table 1), Goldthorpe (2004) (Table 1) and in numerous conversion tables in (Rose, Pevalin, and O'Reilly 2005) and Heath and McDonald (1987). The classification of the NS-SEC used in this study distinguishes between four categories of NS-SEC: (1) higher managerial and professional occupations (NS-SEC 1); (2) lower managerial and professional occupations (NS-SEC 2), (3) intermediate occupations (NS-SEC 3-4); and (4) semi-routine and routine occupations (NS-SEC 5-6-7). This is consistent with the three-class, analytical version of the NS-SEC, and allows for sufficient sample size in each class. However, as this study is concerned with graduates, who are expected to be working in occupation related to higher social classes, the distinction between the higher and lower professional occupations is also incorporated. Further conversion details are available in appendix A. The same conversion is used for the parental class, which strengthens the investigation of the links between parental social class, and the social class of individual. This is further discussed in section 4.3.1.4.

The representativeness of the analytical sample in terms of the social class is evaluated in Table 4.2. It can be seen that, while the distribution of the analytical sample and the total sample of graduates is relatively similar, the sample of graduates is not a representative reflection of the total BCS1970 sample for whom the economic activity

histories are available. Higher proportions of graduates worked in intermediate non-manual occupations, and were professional employees or managers of large establishments. Lower proportions of them worked in skilled and semi-skilled manual occupations, and junior non-manual occupations over their working lives. Based on the literature discussed in section 2.5.2, these discrepancies have been expected.

Table 4.2 Representativeness of the analytical sample in terms of the SEG

Source: British Cohort Study 1970 SN 6943

Activity SEG '91 (label)	Whole sample included in economic activity histories		All graduates		Analytical sample	
	N	%	N	%	N	%
Semi-skilled manual	5703	5.82	425	2.08	149	1.64
Unskilled manual	1787	1.82	95	0.47	28	0.31
Agricultural workers	584	0.60	42	0.21	19	0.21
Armed forces	315	0.32	67	0.33	27	0.30
Don't know/ Not enough info.	651	0.66	153	0.75	62	0.68
Employers - large estab	50	0.05	11	0.05	4	0.04
Employers - small estab	893	0.91	139	0.68	51	0.56
Farmers: own account	44	0.04	2	0.01	0	0.00
Farmers:employers & mngrs	32	0.03	5	0.02	3	0.03
Foremen & supervisors: manual	2482	2.53	150	0.74	54	0.60
Intermed non-man: Ancilliary	9592	9.79	4274	20.95	1951	21.52
Intermed non-man: Foremen	2800	2.86	524	2.57	231	2.55
Junior non-manual	13696	13.97	2223	10.90	936	10.32
Managers - large estab	3022	3.08	1144	5.61	504	5.56
Managers - small estab	4921	5.02	1268	6.22	556	6.13
Not applicable	35476	36.20	6813	33.40	3224	35.56
Own account: non prof	2516	2.57	248	1.22	85	0.94
Personal service	4666	4.76	534	2.62	196	2.16
Prof: Employees	2623	2.68	1747	8.56	815	8.99
Prof: Self-employed	280	0.29	194	0.95	72	0.79
Skilled manual	5874	5.99	339	1.66	100	1.10
Total	98007		20397		9067	

Table 4.2 gives an indication of the occupations related to given social class which have been performed across people's lives. However, it does not provide information about duration, frequency of occurrence, sequencing, and timing of these activities. These can be visualised by the use of index plots, which can be seen in Figure 4.1. The TraMineR (Gabadinho et al. 2011) was used to create these visualisation. In these plots, each horizontal line represents a person's social class history over the period of 26 years. The y-axis shows the total number of observations, and the x-axis represents persons' age. The white spells indicate that either the information is missing, or that a person has not been in active employment, and therefore the corresponding social class does not exist. These histories are ordered by the social class of the given sample at the end of the data collection period. This enables direct comparison of the final social destination across the three samples. As only activities related to occupation have a corresponding social class, spells of missing data are present in the analytical sample, which are coloured in white. The other four colours correspond to the analytical groups of the NS-SEC, as displayed in the legend.

It can be seen that the overall sample members are more likely to have worked in semi-routine, routine and intermediate occupations than the graduates were, as red and orange are more prevalent in the first plot. Smaller proportion of graduates performed the occupations related to lower social classes, especially in their late thirties and early forties. There does not appear to be much difference between the analytical sample and the whole sample of graduates. Moreover, it can be seen that the changes in the social classes over time are more frequent for some individuals than for others.

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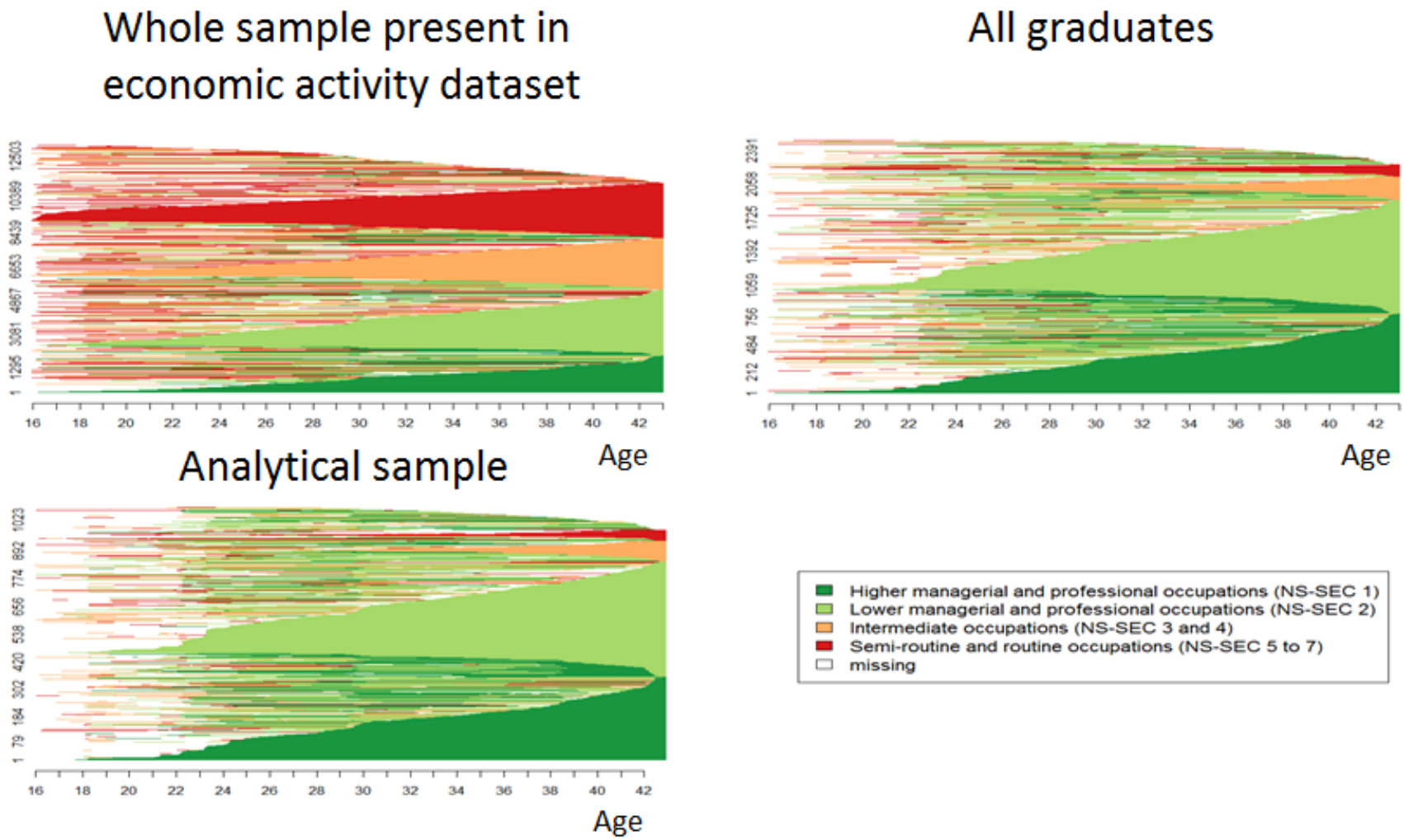


Figure 4.1 Comparison of the sequencing of NS-SEC across samples

Source: own compilation of data extracted from British Cohort Study 1970 SN6943

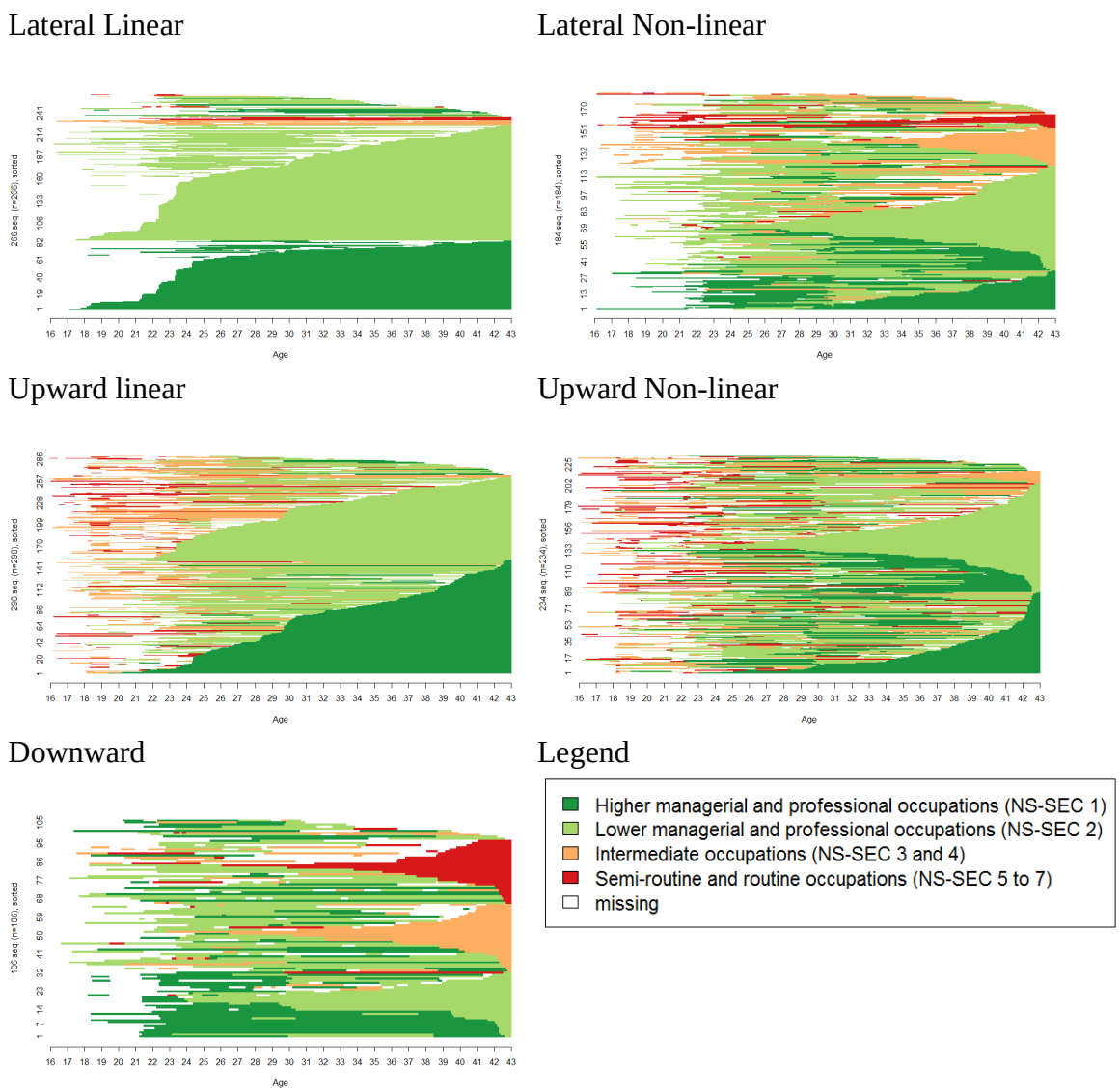


Figure 4.2 The typology of social mobility trajectories of BCS1970

Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

In order to gain better insights into the social mobility trajectories, the social class mobility histories typology has been created, with a view to address some of the limitations discussed in sections 2.2.2 and 2.2.3. To create this typology, the change of social class has been recorded for each person at each time point. Based on the direction of these changes across the whole period analyses, the social class trajectories have been divided into five types. Lateral linear type, which includes those graduates whose social class did not change across their life course. Lateral non-linear type,

which includes those, whose social class changed across their life course, but their starting position was the same as their position at age 42. Upward linear type, which includes those whose every subsequent job was related to a higher social class than the previous job. Upward non-linear type, which includes those who were at age 42 in occupations related to a higher social class than the job via which they entered employment. Downward social mobility trajectories include those who were at age 42 in occupations related to lower social classes than the occupation they previously performed. Given that downward type represents relative small proportion of analytical sample, the distinction between linear and non-linear social mobility has not been made in this case. This typology is displayed in Figure 4.2, and is evaluated in more detail in Chapter 5

4.2.2 Career Pathways

Career types are incorporated in order to test whether there are differences in the dynamic of social mobility for people who have different employment histories. This measurement is based on the presence, frequency of occurrence, and sequencing of the economic activities in the career. The recoding of the economic activities can be seen in Appendix B. The decision to aggregate these categories were based on the low frequencies present in some categories, as well as the lack of substantive differences between them. For example, taking time out of the labour market due to maternity/paternity leave is substantively similar to taking time out in order to look after the family. Therefore, these categories have been aggregated together.

The representativeness of the analytical sample is shown in Table 4.3. It can be seen that a higher percentage of graduates have been in full-time education and in full-time employment, in comparison to the total sample of the BCS1970 cohort members. Slightly lower proportions undertook employment training schemes, have been employed part-time, and took time out of work to look after family. The analytical sample does not appear to systematically deviate from the sample of graduates. As above, this table does not show the longitudinal patterns. These can be seen in Figure 4.3.

Table 4.3 Representativeness of the analytical sample in terms of the economic activities

Source: British Cohort Study 1970 SN 6943

Economic Activity (label)	Whole sample in SN 6943		All graduates		Analytical sample	
	N	%	N	%	N	%
Don't know/ Not enough info.	874	0.89	165	0.81	10	0.11
Employed, but unpaid	12	0.01	4	0.02	2	0.02
Employed, not known if FT/PT	139	0.14	33	0.16	10	0.11
F/t education	14046	14.33	4191	20.55	2124	23.43
F/t paid employee (30+ hrs)	47841	48.81	10739	52.65	4640	51.17
F/t self-employed	3967	4.05	776	3.80	273	3.01
Government training scheme	1939	1.98	134	0.66	46	0.51
Looking after home/family	4610	4.70	608	2.98	290	3.20
Maternity leave	149	0.15	43	0.21	27	0.30
N/a no activities reported for CM	5598	5.71	1	0.00	0	0.00
Other	770	0.79	161	0.79	73	0.81
P/t paid employee (lt 30 hrs)	9553	9.75	1731	8.49	795	8.77
P/t self-employed	1002	1.02	300	1.47	123	1.36
Part-time education	86	0.09	31	0.15%	12	0.13
Permanently sick/disabled	818	0.83	62	0.30	21	0.23
Self-employed, not known if FT/PT	8	0.01	0	0.00	0	0.00
Temporarily sick/disabled	354	0.36	36	0.18	11	0.12
Travelling/Extended holiday	743	0.76	309	1.51	146	1.61
Unemployed seeking work	5340	5.45	1012	4.96	437	4.82
Voluntary work	115	0.12	54	0.26	24	0.26
Wholly retired	40	0.04	7	0.03	3	0.03
Work but not known if ft/pt or emp/se	3	0.00	0	0.00	0	0.00
Total	98007		20397		9067	

The longitudinal patterns, shown in Figure 4.3, reveal that education, as expected, is much more common during the early career years amongst graduates than in the overall sample. However, the large proportion of missing data obscures detailed comparison. Graduates are also less likely to take time out of work to look after the family, especially in their twenties.

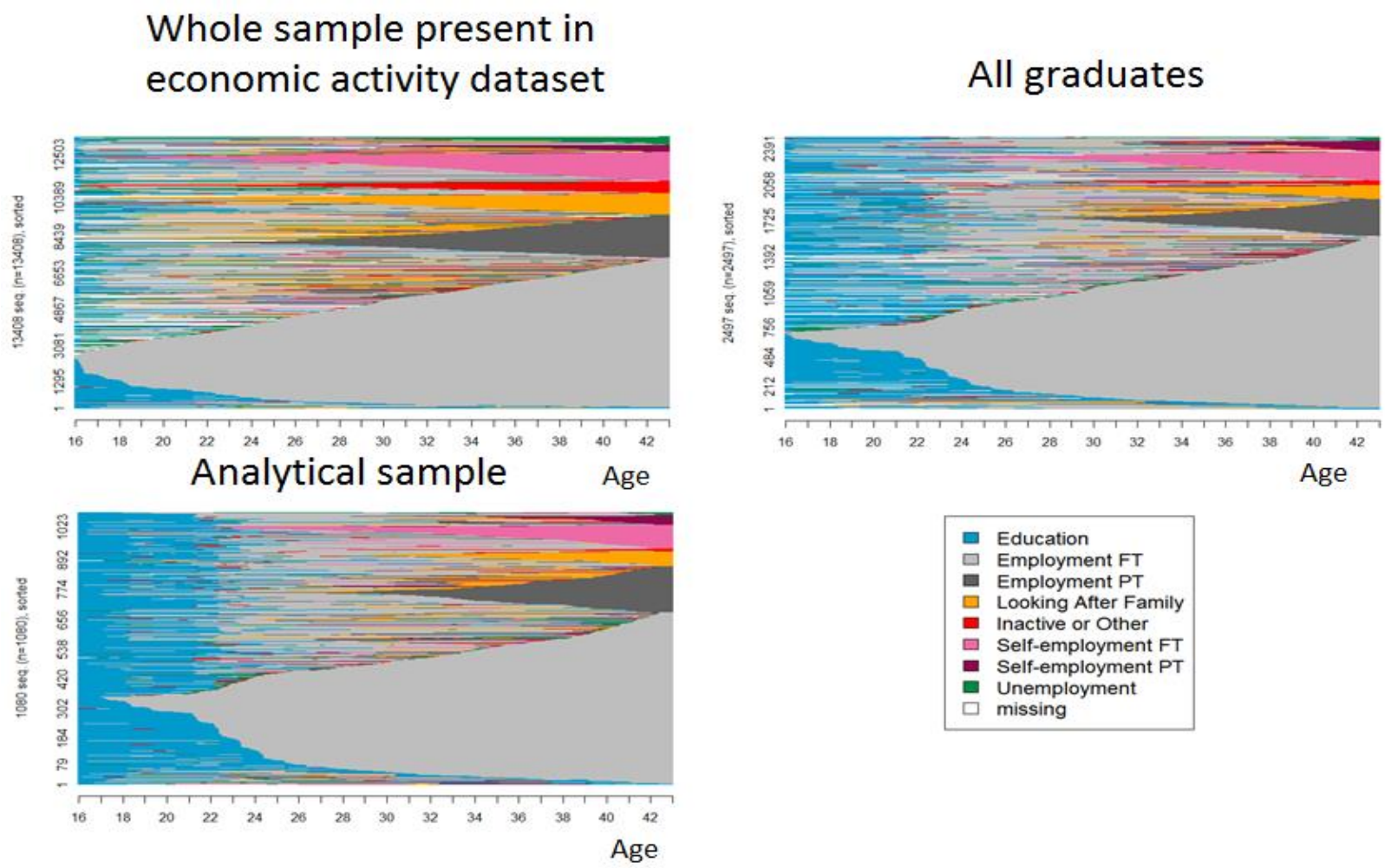
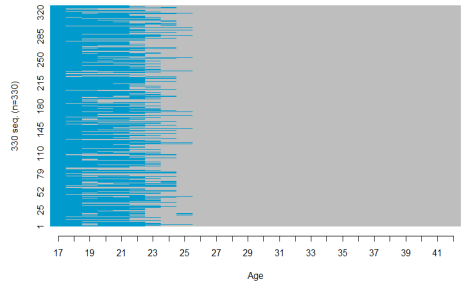
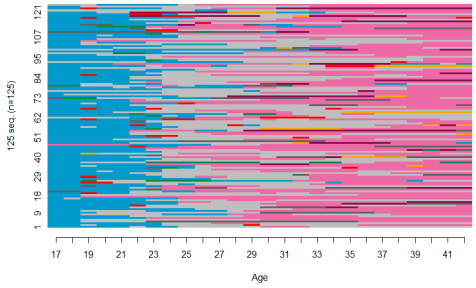


Figure 4.3 Comparison of the sequencing of economic activities across samples
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

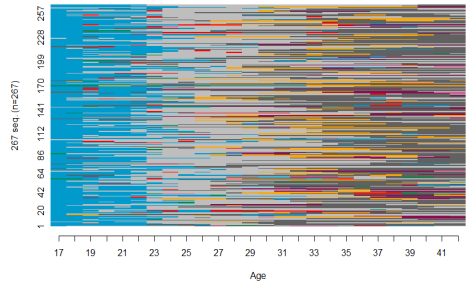
Stable careers



Self-employed



Part-timers



Fragmented careers

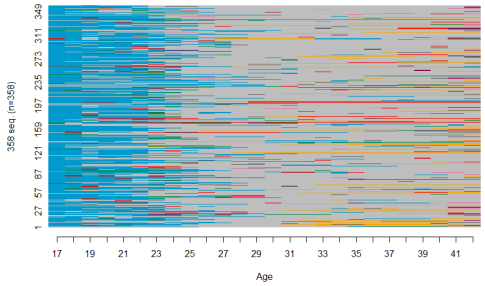


Figure 4.4 The typology of career trajectories of BCS1970

Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

As the standard approach to sequence analysis proved ineffective in this context (for details see Wielgoszewska 2016), the theoretically informed rules based approach was used to allocate sequences of economic activities to types. This approach is similar to the approach adopted by Coulter and Van Ham (2013), as discussed in section 3.5.1. This allocation was based on the literature, as discussed in section 2.3

Following Bukodi et al. (2016) a modal state in each year of graduates' working lives was selected, in order to obtain more stable indicators. This aggregation was conducted for each year, from September to August, to best reflect the academic year. Stable careers include those who continued their education past the compulsory stage, and having competed it, transitioned into full-time paid employment, in which they remained until the end of the observation period. The self-employed type includes those who have been self-employed for more than three years. The part-timers include those who were in part-time employment for over three years. The remaining trajectories are considered as fragmented. The labelling of the clusters follows

Biemann, Zacher, and Feldman (2012). The career classification types have been visually displayed in Figure 4.4, and are evaluated in more detail in chapter 5.

4.2.3 Early Life

In addition to the longitudinal measures in adulthood, two longitudinal measures in childhood are employed in this study, which reflect the circumstances of one's upbringing. These are included in order to answer RQ2, for reasons discussed in section 2.4. As discussed in Chapter 2, these factors can be classified into three groups: geographical, social, and individual.

While ideally the cumulative disadvantage would be measured (see for example Ferraro and Kelley-Moore 2003, Gruenewald et al. 2012), the presence of missingness across early life sweeps does not allow for reliable derivation of a cumulative indicator. Nevertheless, two longitudinal measurements of the childhood conditions are used, in order to account for the changes in the condition in which the participants grew up, or their lack. The methods of derivation of these, as well as their comparability across samples are detailed in this section.

4.2.3.1 Moves across Regions in Childhood

The indicator of whether people moved across regions during childhood is incorporated in this study for two reasons. Firstly, graduates are especially geographically mobile (Abreu, Faggian, and McCann 2015), and migration is considered as one of the facilitators of peoples' social mobility in this study, as discussed in section 2.5.1. Furthermore, it has been recognised that previous geographical moves are likely to impact on the propensity to move in later-life (DaVanzo 1983), and therefore experiencing geographical mobility during childhood might be indicative of the moves in later life, which in turn is expected to facilitate the to-be graduates' social mobility. What is more, as discussed in section 2.4.3, the birth place is expected to impact on peoples' employment (Bosquet and Overman 2016). However, this impact is expected to be lower if people move out of their place of birth

before their employment starts. Thus, the moves during childhood are accounted for in the empirical model in subsequent chapters.

Standard region of residence during the four early life sweeps in BCS1970 forms a basis for this variable, as this is the only geographical variable available consistently for the early life sweeps. If this region is the same for a given person in all four sweeps, they are classified as not having moved. If this region is not the same in these four sweeps, they are classified as having moved. The cases where the region is not available in one or more sweeps, and no move can be detected are classified as missing and imputed as discussed in section 3.7.2.

Due to the large proportion of missing data, especially at the sweep age 10, the representativeness of this sample is challenging to evaluate. Moreover, due to the small sample of movers in the analytical sample, no further distinction of the movers is viable. Based on the proportion of cases with valid information, shown in Table 4.4, slightly greater proportion of to-be graduates than non-graduates moved. The patters of moves in childhood in the analytical sample can be seen in Figure 4.5.

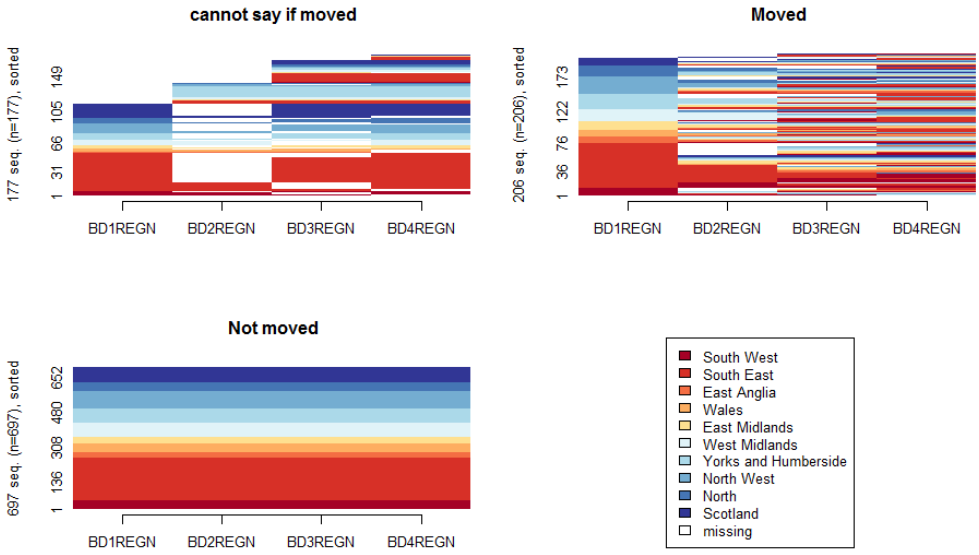


Figure 4.5 Comparison of the sequencing of regions of residence across samples
Source: own compilation of data extracted from British Cohort Study 1970; SN 2666, SN 2699, SN 3723, SN 3535

Table 4.4 Representativeness of the analytical sample in terms of moves across regions in childhood

Source: British Cohort Study 1970; SN 2666, SN 2699, SN 3723, and SN 3535

Distribution in the sample	Number of total cases	Whether the person moved across regions in childhood					
		Moved		Not moved		NA	
		N	%	N	%	N	%
Whole sample present in at least one childhood sweep	18522	2066	11%	7671	41%	8785	47%
All graduates	2497	449	18%	1330	53%	697	29%
Analytical sample	1080	206	19%	697	65%	177	16%

4.2.3.2 Housing Tenure

Housing tenure during childhood is expected to impact on outcomes in adulthood (Ellaway and Macintyre 1998). It is incorporated as a proxy of the level of financial capital (see for example Bostic, Gabriel, and Painter 2009), associated with privilege. Those who own or in the process of acquiring the house they live in, are seen as more affluent. In addition, viewed in the longitudinal perspective, the financial stability experienced during childhood can project onto the later life outcomes.

The cohort members were asked questions related to housing tenure in three childhood sweeps, at age 5, 10 and 16. Based on these variables, a binary indicator is derived, which distinguishes between those who lived during all three sweeps in accommodation which was either owned or being bought, and those who lived in a rented accommodation in at least one of these sweeps.

Table 4.5 details the differences between the samples, and shows that graduates tend to originate from more affluent background than the cohort members in general. However, based on Table 4.5, the most affluent may be overrepresented in the analytical sample, which is likely to be associated with the difficulties related to tracking those in unstable and insecure financial position. The graphical display of the distribution of the housing tenure across the analytical sample can be seen in Figure 4.6.

Table 4.5 Representativeness of the analytical sample in terms of housing tenure

Source: British Cohort Study 1970 SN 2699, SN 3723, and SN3535

Sample	Number of total cases	Housing tenure					
		Owns or buys in all 3 sweeps		Rents in at least one sweep		NA	
		N	%	N	%	N	%
Whole sample present in at least one childhood sweep	16227	4069	25%	7162	44%	4996	31%
All graduates	2497	1081	43%	524	21%	892	36%
Analytical sample	1080	609	56%	194	18%	277	26%

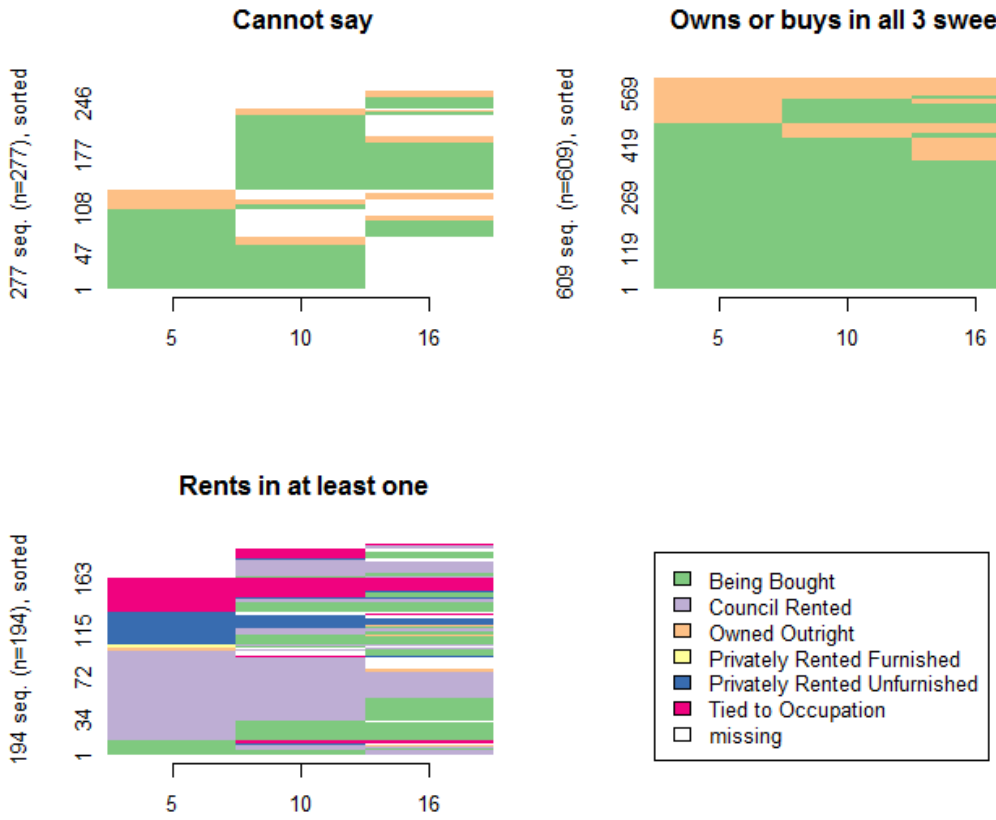


Figure 4.6 Comparison of the sequencing of housing tenure across samples

Source: own compilation of data extracted from British Cohort Study 1970 SN2699, SN 3723, SN 3535

4.2.4 Migration

Another aspect measured longitudinally in this study relates to the internal migration within the UK. In this case the escalator regions are of particular interest, as they are expected to promote graduates as a faster rate, as discusses in section 2.5.1. In order to derive this indicator, the counties from all adult sweeps were recoded into the first order escalator region, the second order escalator regions, and other, as shown in Appendix C, as well as in Figure 4.7. This classification was based on previous studies: The study conducted by Fielding (1992) was used to classify London as the first order escalator, the second order escalators were classified on the basis of Champion, Coombes, and Gordon (2014) for England, and Van Ham et al. (2012) for Scotland. Although Cardiff does not feature in these studies, the concentration of professional jobs in Cardiff is relatively high, as can be seen from Figure 4.12, which implies it is also likely to act as a second order escalator. In addition, several previous studies use the size of the city as a proxy (see for example Gibbons 2016, Chetty et al. 2014) and based solely on its population, it would rank amongst the second order escalator.

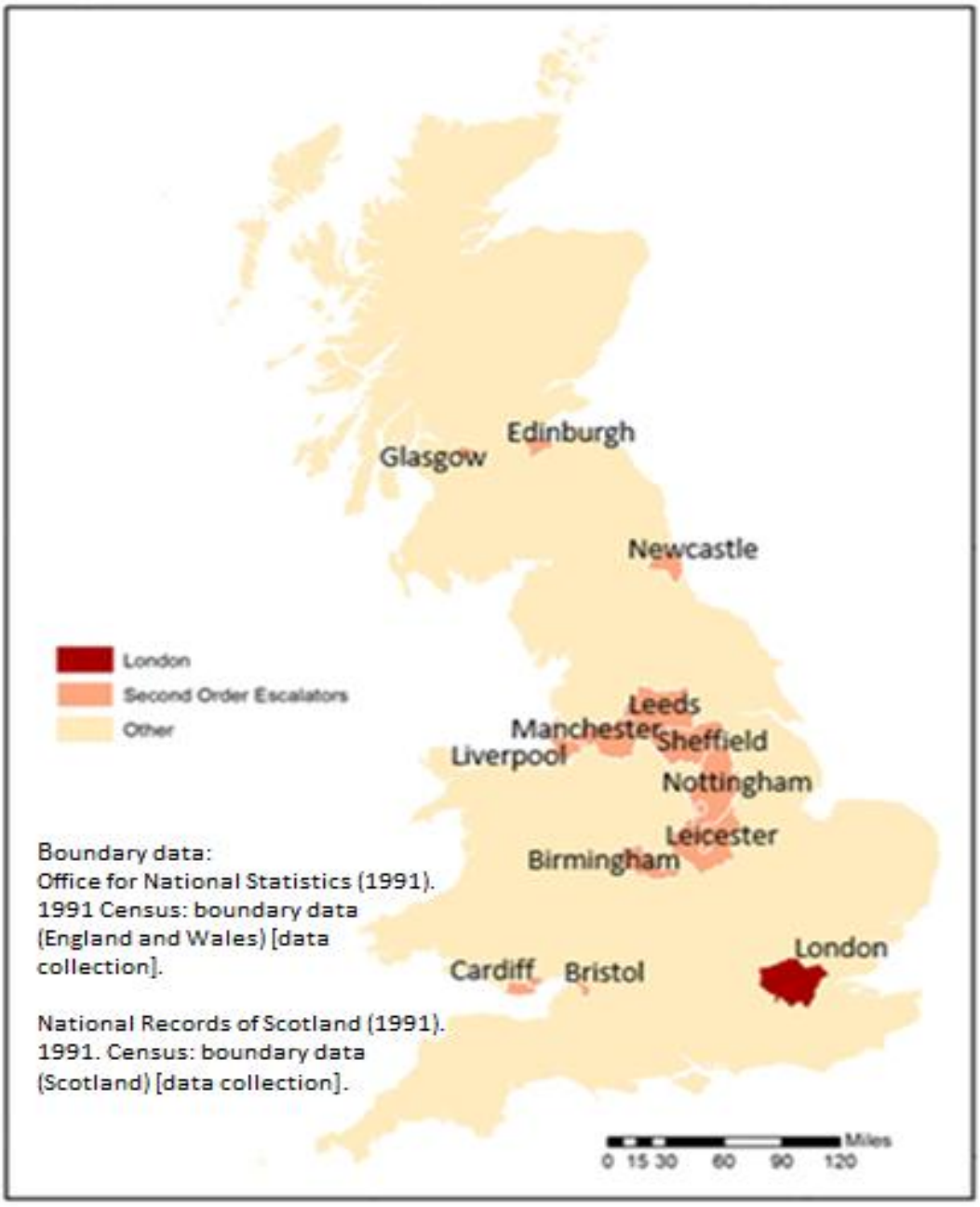


Figure 4.7 First and Seconds Order Escalator Regions in the UK

Source: own compilation

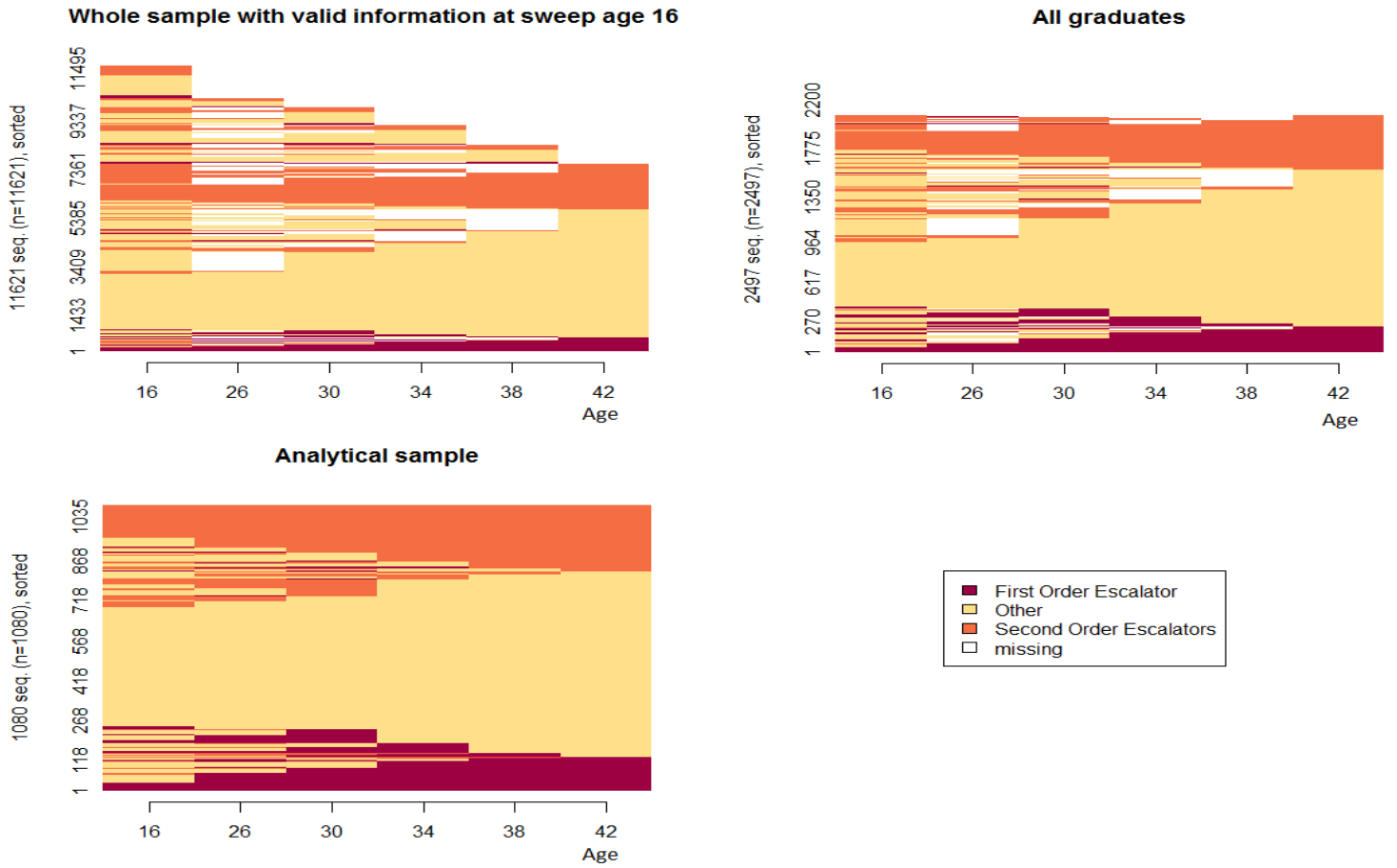


Figure 4.8 Comparison of the sequencing of geographical location across samples
Source: own compilation of data extracted from British Cohort Study 1970 SN 5537

Geographical location during adulthood has only been collected at the time of the five sweeps, therefore it is available only at five time points, at the year 1986, 1996, 2000, 2004, 2008, and 2012. Table 4.6 compares the sample size between the escalator regions in the given sweep. The comparison of the graduate subsample to the total reveals that higher proportion of graduates resided in London across all sweeps. The percentages of graduates in second order escalators are slightly lower in the earlier sweep, but much higher in the later sweeps, with the average difference of 39% across the three latest sweeps. At the same time, the proportion of graduates in the other regions is lower, with an average difference of 44% across the three later life sweeps. These differences are likely to be a result of selective graduate migration (Bailey 2012).

The differences between the graduates in comparison to the analytical sample are also substantial. The proportion of graduates in second order escalators in the latest three sweeps is on average 40% lower in second order escalators and 40% higher in other regions. Therefore, this study is likely to underestimate the size of the phenomenon of migration to second order escalators. Alternatively, this could be linked to the varying sample size for which information is available, as the percentage of missing data in the graduate sample varies between 20% and 44% across the sweeps. Despite the fact that the analytical sample used in this study might not be representative of the overall graduate cohort, it is likely to provide insights between the relationship of social mobility, career type and migration that could not be detected otherwise.

As before, the percentages in Table 4.6 do not reflect the longitudinal patterns. For example, the number of graduates in London is the same in sweeps of year 2008 and 2012, which could be interpreted as their lack of moves, when simply comparing the aggregate values. However, via the life course perspective, and as show in Figure 4.8, it can be seen that these values are a result of the same size of in and out flows, rather than their lack. Further investigation on these migration trajectories, including more detailed evaluation of the migration typology, is described in Chapter 7.

Table 4.6 Representativeness of the analytical sample in terms of geographical location

Source: British Cohort Study 1970 SN 5537

Year of the sweep	Whole BCS1970 sample with location available at sweep 1986							
	London		Second order escalators		Other		NA	Total sample excluding NA
	N	%	N	%	N	%	N	N
1986	848	7.30%	3168	27.26%	7605	65.44%	N/A	11621
1996	632	9.31%	1750	25.77%	4409	64.92%	4830	6791
2000	826	9.39%	2322	26.40%	5648	64.21%	2825	8796
2004	686	8.86%	1929	24.90%	5131	66.24%	3875	7746
2008	569	8.02%	1720	24.24%	4807	67.74%	4525	7096
2012	548	7.19%	1855	24.34%	5217	68.46%	4001	7620
Year of the sweep	Graduates							
	London		Second order escalators		Other		NA	Total sample excluding NA
	N	%	N	%	N	%	N	N
1986	154	7.43%	526	25.36%	1394	67.21%	423	2074
1996	193	12.11%	406	25.47%	995	62.42%	903	1594
2000	277	14.54%	505	26.51%	1123	58.95%	592	1905
2004	268	14.68%	1128	61.77%	430	23.55%	671	1826
2008	228	12.31%	1187	64.09%	437	23.60%	645	1852
2012	228	11.00%	1366	65.89%	479	23.11%	424	2073
Year of the sweep	Analytical sample							
	London		Second order escalators		Other		NA	Total sample excluding NA
	N	%	N	%	N	%		N
1986	76	7.04%	251	23.24%	753	69.72%		1080
1996	132	12.22%	275	25.46%	673	62.31%		1080
2000	180	16.67%	281	26.02%	619	57.31%	N/A	1080
2004	169	15.65%	245	22.69%	666	61.67%		1080
2008	139	12.87%	253	23.43%	688	63.70%		1080
2012	126	11.67%	251	23.24%	703	65.09%		1080

4.2.5 Higher Education

The final set of longitudinal characteristics relates to higher education. As discussed in section 2.5.2 horizontal differences between the higher education degrees gained importance in the era of higher education expansion (Brown, Hesketh, and Wiliams 2003). Therefore, in addition to three statics measurements of quality of higher education degrees, the derivation of which is detailed in section 4.3.2, two longitudinal measures of higher education are incorporated.

4.2.5.1. Frequency of Educational Spells

The frequency of spells of education indicates whether graduates took breaks in-between their education. As shown in Figure 4.3, such breaks are mainly taken for employment, and therefore can be associated with greater understanding on the principles on which the labour market operates and more extensive work experience, which is likely to result in promotions related to upward social mobility. As argued by Brown (1995 p. 42) "a range of broader interest and hobbies which offered time out from academic study (…) has increasingly became a form of investment as part of the construction of the value added curriculum vitae."

In order to control for this form of investment, the number of spells of education each person experienced has been counted. As the majority of graduates experienced one spell and only few experienced more than two spells, all multiple spells were aggregated together. The resultant binary measurement distinguishes between those who experienced education in one continuous spell, and those who experiences education in multiple spells as shown in Figure 4.9.

The comparison of the distribution of this variable to the overall BCS1970 sample is not meaningful, as the spells of education during adult life are not common amongst non-graduates. The comparison to the whole sample of graduates, show in Table 4.7, is challenging due to the high percentage of missing data, which is one of the main reasons for the disparity between the whole sample of graduates and the analytical

sample. However, the analytical sample appears to be representative of graduates, as when ignoring the missing data, the distribution between these two samples is similar.

Table 4.7 Representativeness of the analytical sample in terms of frequency of spells

Source: British Cohort Study 1970 SN 6943

	Frequency of spells						
	No spells		One spell		Multiple spells		Total
	N	%	N	%	N	%	
All graduates	274	11.05%	1410	56.47%	813	32.56%	2497
Analytical sample	N/A	NA	666	61.67%	414	38.33%	1080

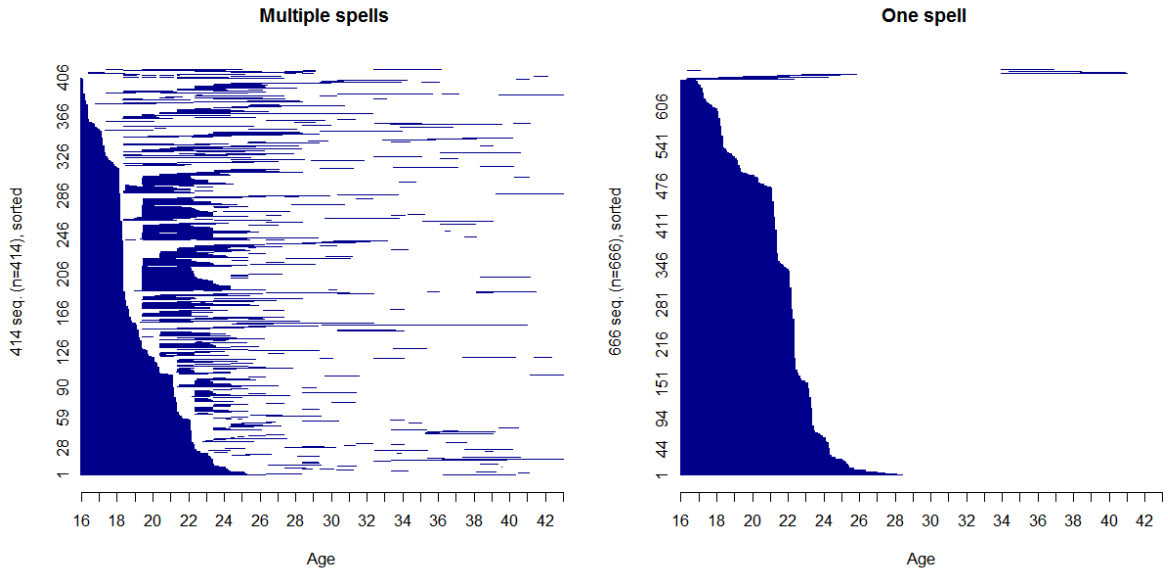


Figure 4.9 Frequency of educational spells in the analytical sample

Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

4.2.5.2. Timing of Education

The second longitudinal measurement of higher education characteristics is the timing of education. This relates to lifelong learning, which has a protective effect against the diversities (Evans, Schoon, and Weale 2013). On one hand, viewed as a biographical negotiation, education obtained as mature student can be more tailored towards the labour markets' needs. One the other hand, mature students have had less time to

progress in the labour market upon graduation. This makes the timing of education a vital control variable in the assessment of the relationship between their social mobility and employment histories.

The timing of education is derived from the economic activity dataset. It measures the graduate's age at the last transition out of education. The timing of all the transitions out of education, as well as the comparison of the density between the analytical sample and the whole sample of graduates, are shown in Figure 4.10. It can be seen that the highest proportion of transitions out of education occur in early twenties, but earlier and later transitions are not uncommon. While the sample of graduates appears to have a bimodal distribution, with an earlier peak during late teens, this could be a result of cohort members overstating the qualification level in the postal survey at age 26 in the absence of interviewer, or it could be related to the ambiguity of a 'diploma' status (Dodgeon et al. 2011). This earlier mode is not present in the analytical sample.

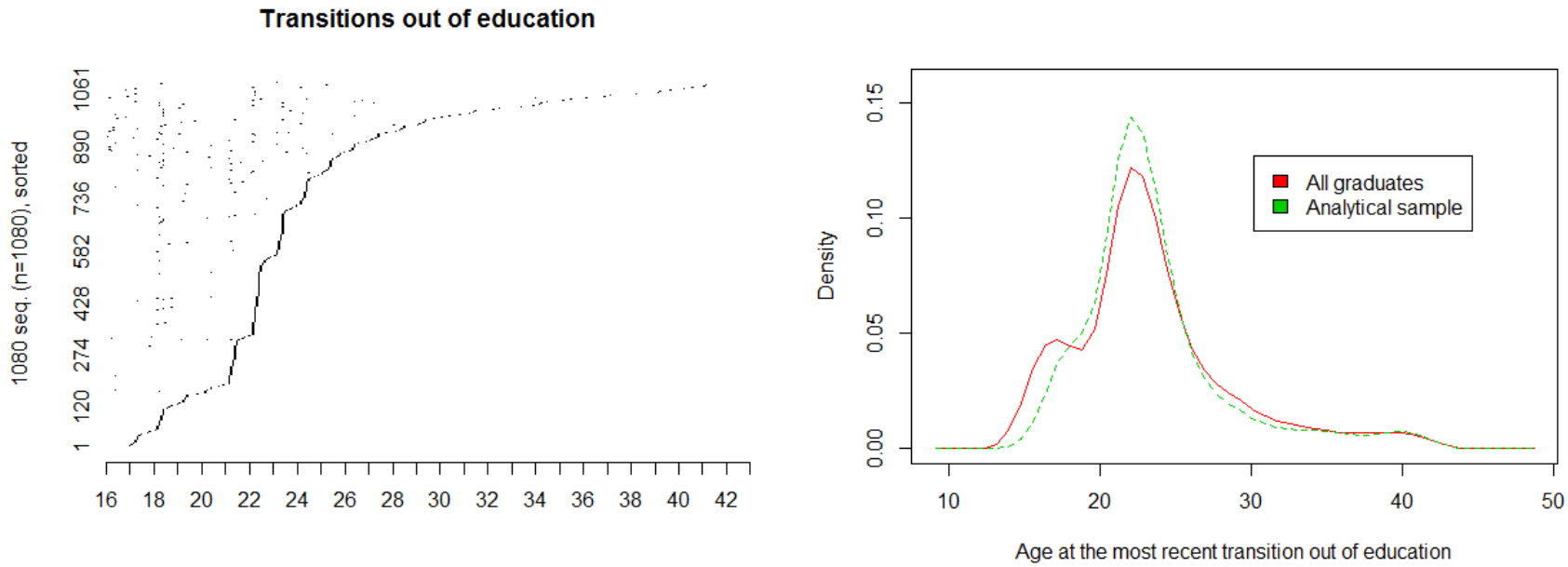


Figure 4.10 Timing of education in the analytical sample
Source: own compilation of data extracted from British Cohort Study 1970 SN6943

4.3 Static Measurements

In addition to longitudinal measurements, which are designed to capture the change over time, several of the concepts evaluated in this study are static at the point in time at which they are measured. This happens for two reasons: either the time point at which they are measured is crucial for the substantive investigation, or the measurement is designed to capture the feature of an event that occurred in the past, rather than its timing. These reasons are developed upon below.

The first reason applies, for example, to the geographical factors. The characteristics of the local labour market are crucial at the point of major life transitions, such as end of compulsory education. Location in time and place, as discussed in section 3.2, is one of the main components of life course theory. It is concerned with the impact of the contextual factors, such as historical reality and geographical location, on one's life. For example, it might be relatively easy to find employment, if one is looking for it in places where the economy is booming, as typically many jobs are available. In contrast, the scarcity of jobs in places experiencing economic downturn might direct individuals to different economic activities, as discussed in section 2.4.3. Since only one birth cohort is analysed in this study, all members of the cohort live in the same historical times. This implies that the impact of difference in geographical location can be isolated. The question of whether and, if so, to what extent the geographical location at the time of end of compulsory education impacts of the development of one's career is central to this study, and this variable is not designed to proxy the local labour market changes over time. This is because moving to the area where more suitable jobs for graduates are available is expected to be a strategy more likely utilised by graduates, as compared to waiting for the local labour market to change.

The latter is the case, for example, for educational characteristics. These measurements capture the features of the higher education degree, which are not expected to depreciate over time, but to facilitate one's social mobility to the same extent, regardless of how long ago their graduation occurred. For example, a particular institution and a given field of study would feature on one's CV for the remainder of

their life course, and signal to the potential employer that the graduate has skills and knowledge in a particular field, regardless of the time point at which it was obtained.

4.3.1 Early Life

In addition to the longitudinal measures of the conditions of growing up, developed in previous section, several static measurements are incorporated in this study. These static measurements are designed to capture the variation across the sample of graduates, not the change over time. Since they can be observed prior to the start of one's career, and are used in the subsequent chapters to evaluate the extent to which early life impacts on career and mobility trajectories in later life.

4.3.1.1 Local Unemployment Rate

It has been previously recognised that the birth place plays an important role in the people's employment (Bosquet and Overman 2016). The unemployment rate proxies jobs availability at the local level, which in turn indicates the level of difficulty to secure employment a person willing to work in a given region may experience. It is measured at age 16, as this is when the to-be graduates complete compulsory education and when their observed employment careers start to diverge across the sample of graduates.

The county in which the cohort member resided is available from the sweep at age 16. However, no further characteristics of these counties are included in the BCS1970. Therefore, in order to obtain the local unemployment rate, the BCS1970 data were linked to the information available from the census, available from NOMIS website (https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp).

For this linkage, the same geographical unit was needed in both files. While Scottish counties are available from the BCS1970 data, census information are only available at the Scottish regions level. In order to match the geographical unit of the data, Scottish counties in the BCS1970 were aggregated into Scottish regions as in Appendix D.

To compute the local unemployment rate "Economic position" (Table 5) from the 1981 Census was used. The unemployment rate was computed by calculating the ratio of the number of people seeking employment to the sum of the number of those seeking employment and those working for each pre-1996 counties and Scottish regions, consistently with the definition of unemployment.

The geographical distribution of unemployment rate can be seen in Figure 4.11 and the corresponding names of the regions can be seen in Appendix E, and the density plot of the unemployment rate of the analytical sample, as compared to all graduates and the whole sweep at age 16 can be seen in Figure 4.15. The density curves appear to align closely, which indicates that the analytical sample is a reasonable geographical representation of the overall sample of BCS1970 cohort members, as well as the sample of all graduates. All unemployment densities are bimodal, which indicates internal division of the UK, and most likely reflects the North-South divide (see for example Buchan et al. 2017).

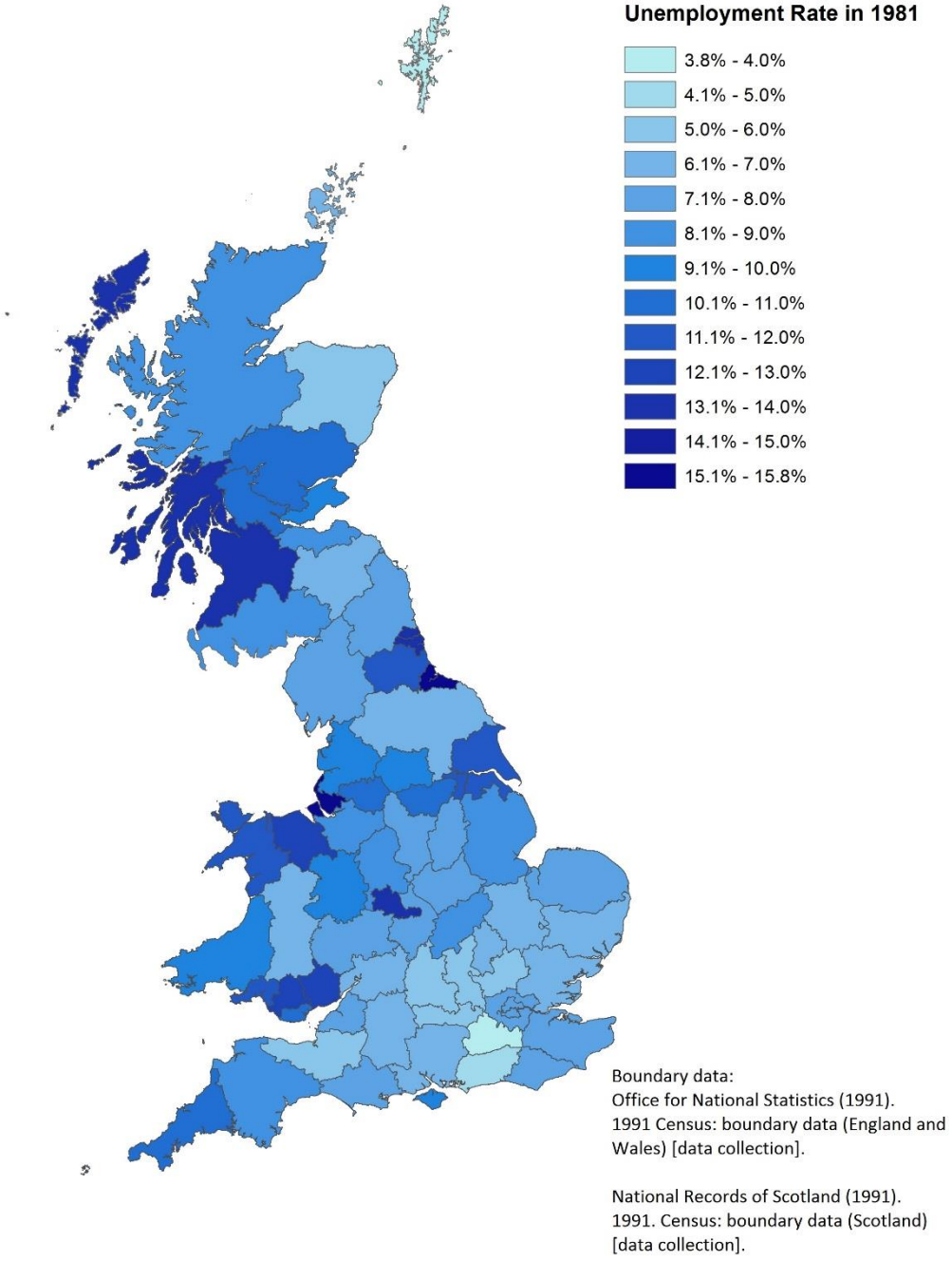


Figure 4.11 Unemployment rate in the areas of residence of cohort members at age 16

Source: own compilation of data extracted from census 1981

4.3.1.2 Knowledge-Based Economy

The second geographical measurement, reflecting the characteristic of the local labour market, is the rate of professional workers in the county. Professional occupations are defined as those

> "whose main tasks require a high level of knowledge and experience in the natural sciences, engineering, life sciences, social sciences, humanities and related fields. The main tasks consist of the practical application of an extensive body of theoretical knowledge, increasing the stock of knowledge by means of research and communicating such knowledge by teaching methods and other means. Most occupations in this major group will require a degree or equivalent qualification, with some occupations requiring postgraduate qualifications and/or a formal period of experience-related training" (ONS 2010, p. 53).

It is expected that the graduates residing in regions where more professional jobs exist would be more likely to secure job related to higher social classes, which would facilitate their social mobility. In order to compute this measure "Occupation (10% sample)" (Table 74) from the 1991 census was used, and linked to the areas of cohort's members residence at age 16. It reflects the ratio of people employed in professional occupation to all economically active for each pre-1996 counties and Scottish regions.

The geographical distribution of this variable can be seen in Figure 4.12, and shows that the professional jobs are highly concentrated in and around London, as well as in Lothian and South Glamorgan region, which confirms that Edinburgh and Cardiff may act as an escalator region. The density plot of the rate of professional workers, displayed in Figure 4.15, aligns closely across samples. This indicates that the analytical sample is a reasonable geographical representation. The bimodal density curve of this rate also confirms the internal division of the UK. However, in this case, this distribution is more likely to reflect the concentration of professional job is the capital cities.

4.3.1.1 Part-time Employment Rate

Part-time employment rate is included as a feature of the local labour market, in order to test the hypothesis that people who reside in areas with higher part-time employment

rates may be more likely to follow the part-time employment careers, and if so, to control for this phenomenon. "Economic position" (Table 8) from the 1991 was used to derive this measurement, and linked to the areas of cohort's members residence at age 16. The part-time employment rate was computed as a ratio of part-time workers to all those who were economically active, according to the definition (OECD 2018).

As seen in Figure 4.13 the ratio of part-time workers is the lowest in London. At the same time, it is relatively high in the surrounding London areas. This might indicate that people on part-time careers move out of the first order escalator to surrounding areas, where the cost of living are lower. The bimodal density of part-time employment, shown in Figure 4.15, may also reflect this.

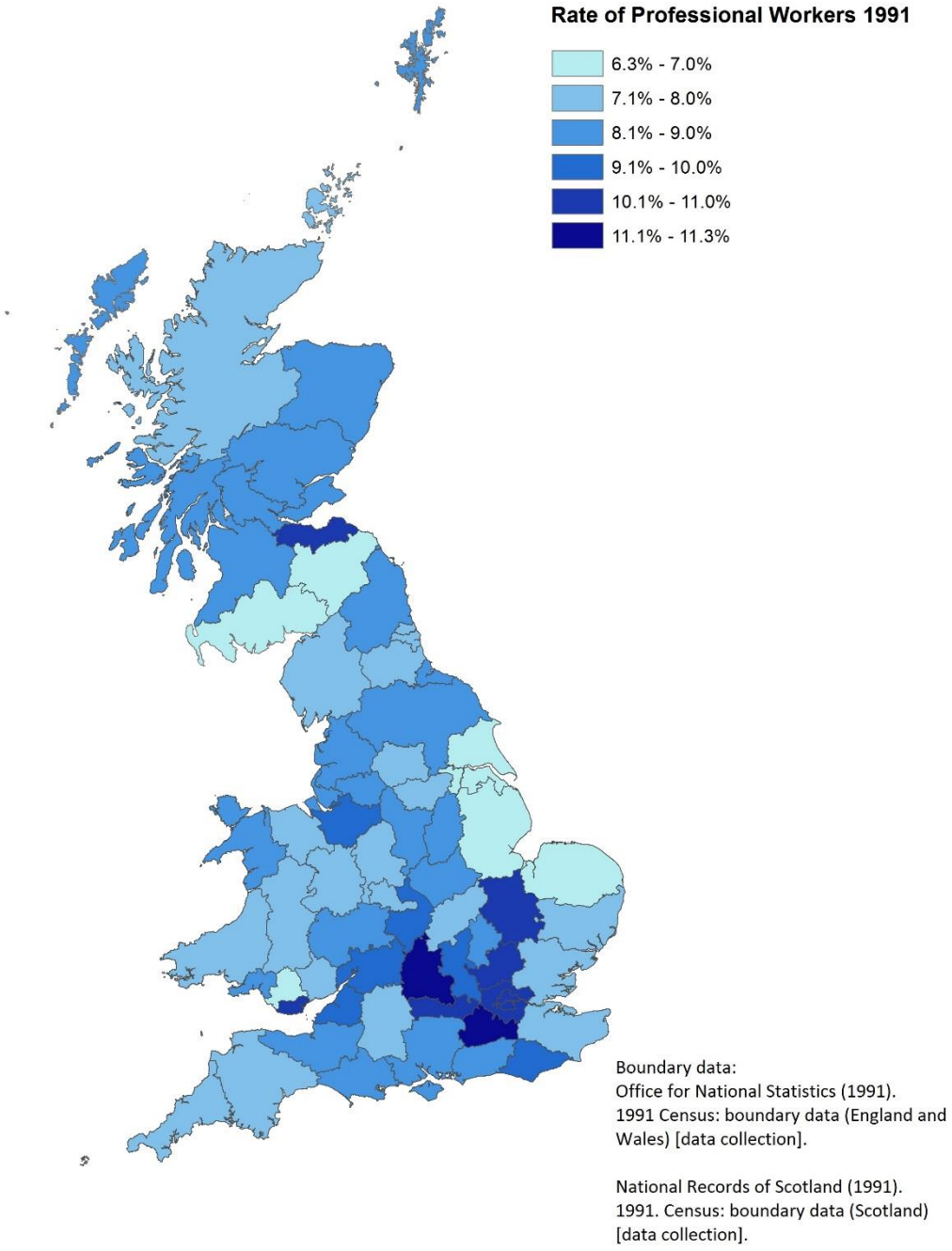


Figure 4.12 Knowledge-based economy in the areas of residence of cohort members at age 16

Source: own compilation of data extracted from census 1991;

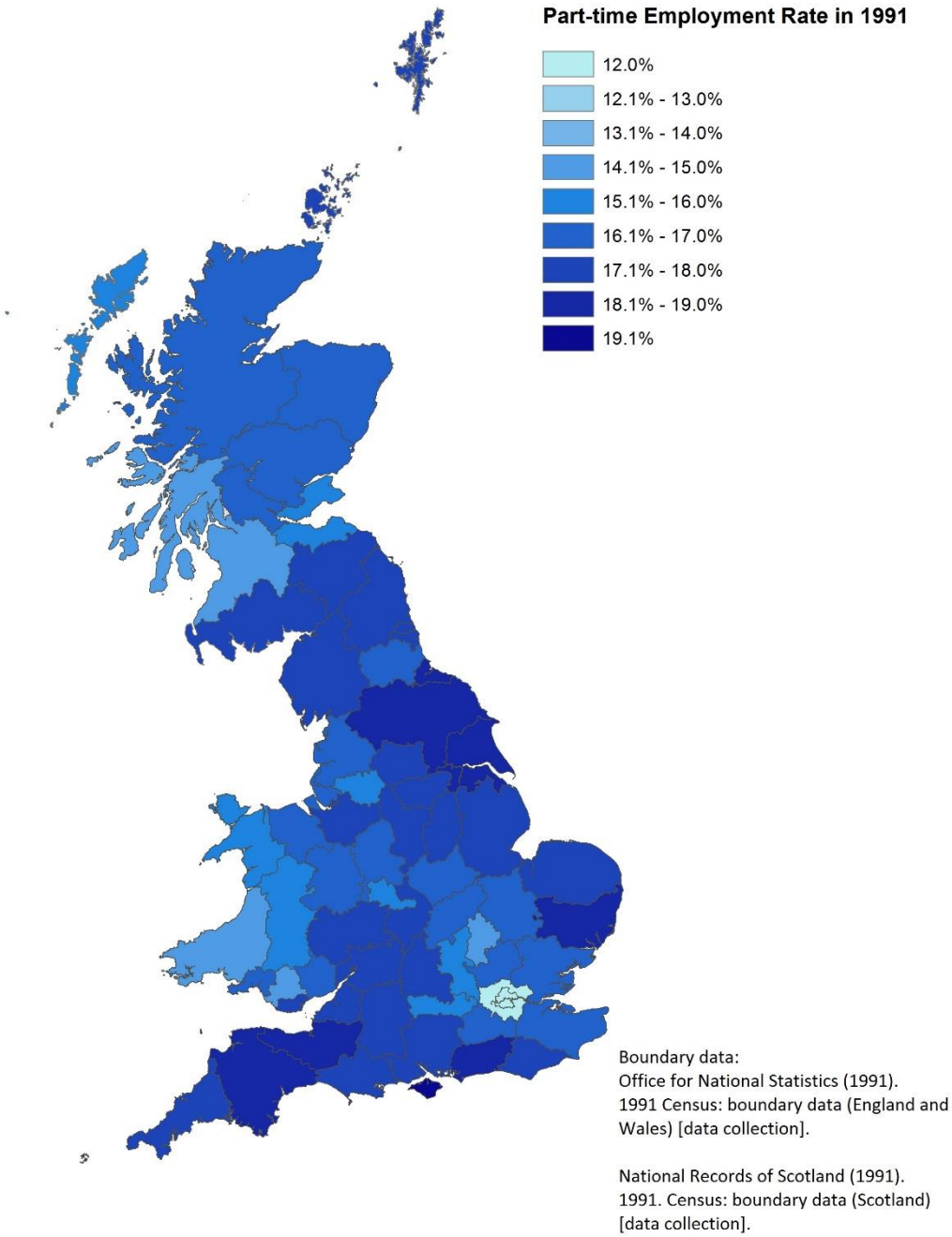


Figure 4.13 Part-time employment rate in the areas of residence of cohort members at age 16

Source: own compilation of data extracted from census 1991

4.3.1.2 Predominant Industry Sector

The final characteristic of the local labour market of interest for this study is the nature of the local industry. The UK is considered to be in the post-industrial stage of the Clark-Fisher model of development, during which the tertiary sector jobs are growing while the primary and secondary sector jobs are declining. As the service sector has grown in recent years, it became internally-diverse (Heinz 2003), and is considered to offer employment mainly to women (Lorence 1992). As a result, the nature of the local industry division is likely to impact on the career, and to point to the types of employment career and social mobility trajectories, which are likely to become obsolete if the growth of service sector jobs continues.

It is important to note that all regions in the UK are predominantly tertiary. However, the extent to which this is the case varies in comparison to the national average. In order to derive the indicator, which is relative to the national average, the location quotient[2] has been calculated for each pre-1996 counties and Scottish regions, and each available industry sector from "Industry (10% sample)" (Table 73) of the 1991 census. These quotients have been averaged for the primary industries (agriculture, forestry and fishing, and mining), secondary industries (energy and water, manufacturing metal, other manufacturing, and construction), and tertiary industries (distribution and catering, transport, banking and finance, and other services). Each county was then allocated to a group, for which the average score is the highest, resulting in a three-level classification.

The geographical distribution of the predominant sector in each region is shown in Figure 4.14, and the distribution across the sample is shown in Table 4.8. The map of the industries shows that secondary industries align closely with the second order escalators, while tertiary industries are more predominant in the capital city regions.

[2] Location quotient has been calculated as LQi= (ei/e) / (Ei/E), where LQi= location quotient for sector in the regional economy; ei= employment in sector i in the regional economy; e= total employment in the local region; Ei=employment in industry i in the national economy; E= total employment in the national economy

The primary industries appear to align with the non-escalator regions. Although the missing values obscure the comparison across the sample, graduates are slightly more likely to reside at 16 in predominantly tertiary industry counties. The analytical sample appears to be geographically representative.

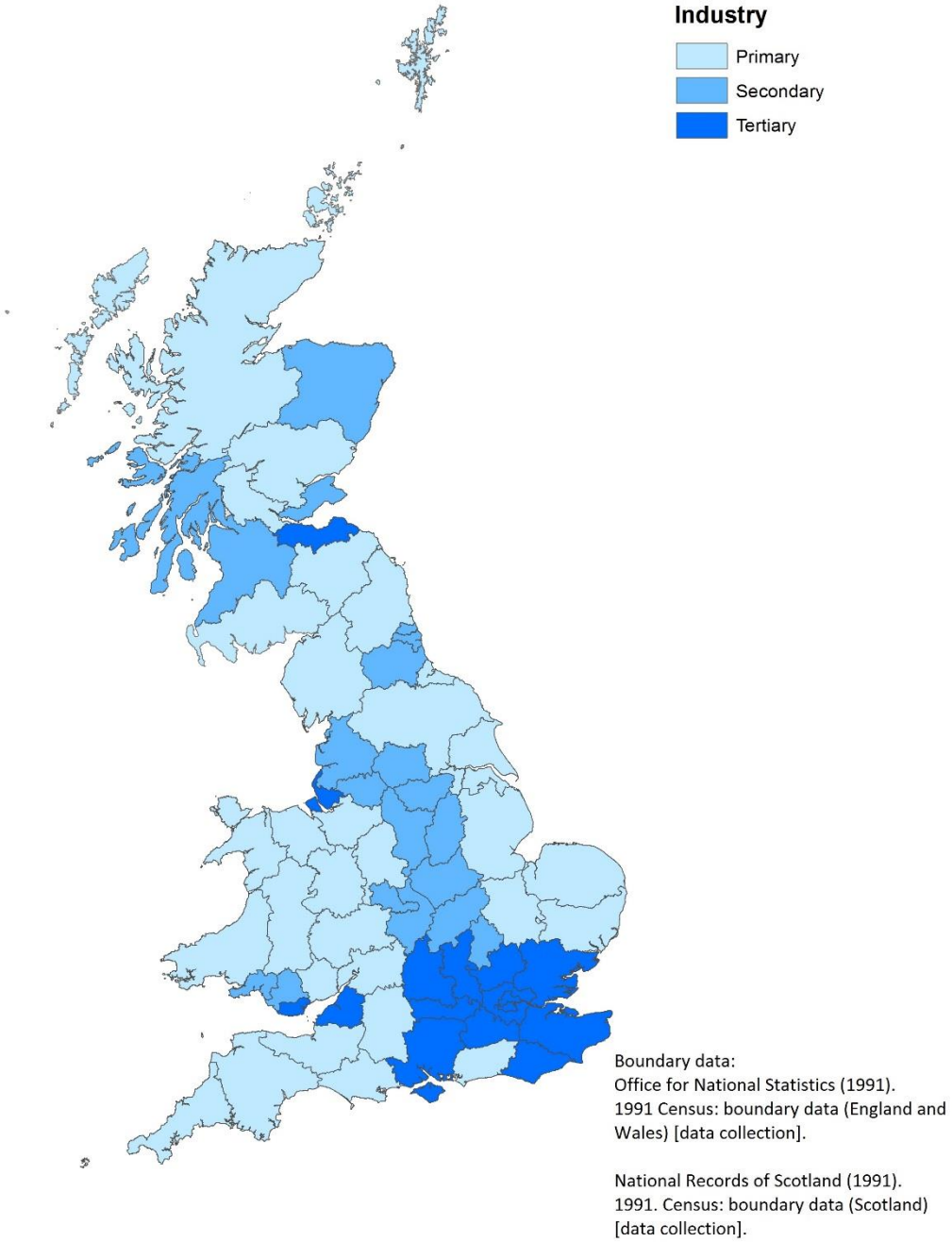


Figure 4.14 Predominant industry sector in the areas of residence of cohort members at age 16

Source: own compilation of data extracted from census 1991

Table 4.8 Representativeness of the analytical sample in terms of the industry sector

Source: British Cohort Study 1970 SN 5537 and census 1991

Sample	Number of total cases	Predominant industry Sector							
		Primary		Secondary		Tertiary		NA	
		N	%	N	%	N	%	N	%
Whole sample present at all 4 childhood sweeps	11621	3474	30%	4363	38%	3494	30%	290	2%
All graduates	2497	643	26%	736	29%	669	27%	449	18%
Analytical sample	1080	333	31%	371	34%	366	34%	10	1%

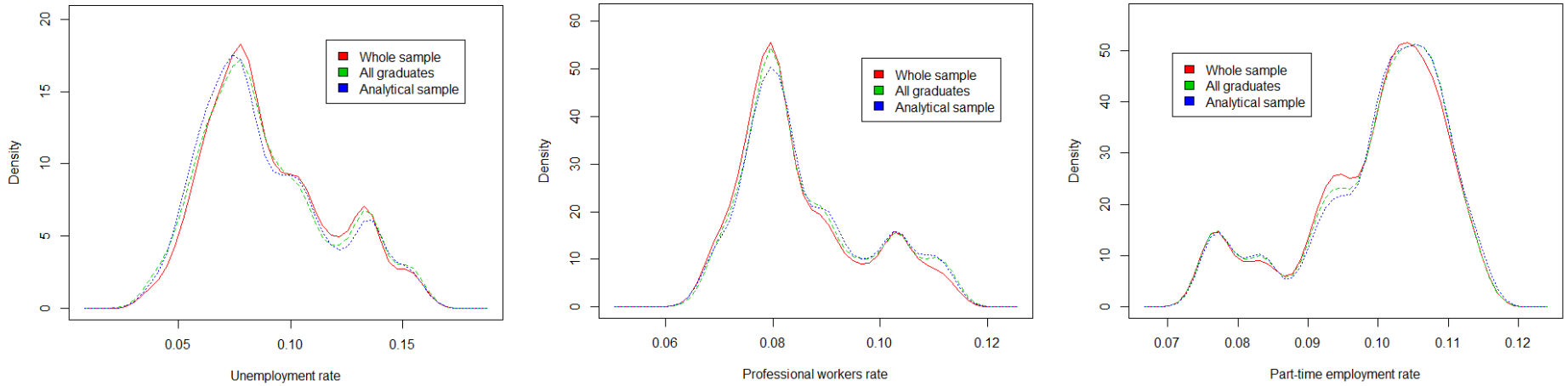


Figure 4.15 Density plots comparing geographical distribution across samples

Source: own compilation of data extracted from British Cohort Study 1970 SN5537 and census 1981 and 1991

4.3.1.3 Gender

Gender is one of the main predictors of labour market outcomes, as discussed in more detail in the section 2.4.1. Gender has been collected at all sweeps, and the changes of gender are rare as shown in Appendix F. Therefore, this indicator was chosen from the sweep at age 42, which has the best coverage and the highest match rate with the analytical sample. This indicator is also self-reported, and self-assigned rather than biologically defined, and therefore more likely to reflect employment preferences.

As shown in Table 4.9, the percentage of females in the overall sample is slightly higher in comparison to males. The analytical sample has even greater percentage of females than the overall sample and the sample of graduates. This indicates that females may be slightly overrepresented in this analysis.

Table 4.9 Representativeness of the analytical sample in terms of gender

Source: British Cohort Study 1970 SN 7473

Sample	Number of total cases	Gender			
		Female		Male	
		N	%	N	%
Whole sample in sweep age 42	9841	5117	52%	4724	48%
All graduates	2497	1308	52%	1189	48%
Analytical sample	1080	621	58%	459	43%

4.3.1.4 Parental Social Class

Parental social class is a major predictor of later life chances, and an aspect of 'linked lives' incorporated in this study, as discussed in section 3.2. Although, under the assumption of meritocracy, it should not be related to later life outcomes, parental social class has been shown to have significant impact in previous studies as discussed in section 2.4.2.

Table 4.10 Representativeness of the analytical sample in terms of parental social class
Source: British Cohort Study 1970 SN 3723

SEG		FATHER'S CORRECTED SOCIAL VARS SEG 1980						MOTHER'S CORRECTED SOCIAL VARS SEG 1980					
		Whole sample present in sweep at age 10		Graduates		Analytical sample		Whole sample in sweep at age 10		Graduates		Analytical sample	
Values of the variable	Corresponding class	N	%	N	%	N	%	N	%	N	%	N	%
100	10 Semi-skilled manual workers	1226	8.24%	97	3.88%	38	3.52%	1139	7.66%	100	4.00%	47	4.35%
11	1.1 Employers in industry, commerce etc. (large establishments)	58	0.39%	10	0.40%	3	0.28%	26	0.17%	2	0.08%	0	0.00%
110	11 Unskilled manual workers	443	2.98%	20	0.80%	5	0.46%	901	6.06%	65	2.60%	25	2.31%
12	1.2 Managers in central and local government, industry, commerce etc. (large establishments)	853	5.74%	256	10.25%	120	11.11%	51	0.34%	14	0.56%	6	0.56%
120	12 own-account workers (other than professional)	1014	6.82%	144	5.77%	53	4.91%	356	2.39%	61	2.44%	31	2.87%
130	13 farmers - employers and managers	84	0.56%	25	1.00%	14	1.30%	10	0.07%	2	0.08%	0	0.00%
140	14 farmers own account	129	0.87%	21	0.84%	11	1.02%	21	0.14%	7	0.28%	3	0.28%
150	15 Agricultural workers	119	0.80%	12	0.48%	6	0.56%	133	0.89%	16	0.64%	9	0.83%
160	16 Members of Armed Forces	161	1.08%	30	1.20%	12	1.11%	2	0.01%	0	0.00%	0	0.00%
21	2.1 Employers in industry, commerce etc. (small establishments)	443	2.98%	72	2.88%	34	3.15%	152	1.02%	26	1.04%	13	1.20%
22	2.2 managers in industry commerce etc. (small establishments)	864	5.81%	198	7.93%	107	9.91%	242	1.63%	40	1.60%	14	1.30%

SEG		FATHER'S CORRECTED SOCIAL VARS SEG 1980						MOTHER'S CORRECTED SOCIAL VARS SEG 1980					
		Whole sample present in sweep at age 10		Graduates		Analytical sample		Whole sample in sweep at age 10		Graduates		Analytical sample	
30	3 Professional workers self-employed	164	1.10%	77	3.08%	38	3.52%	16	0.11%	10	0.40%	9	0.83%
40	4 Professional workers employees	583	3.92%	217	8.69%	112	10.37%	39	0.26%	22	0.88%	8	0.74%
51	5.1 Intermediate non-manual workers	614	4.13%	191	7.65%	96	8.89%	1155	7.77%	371	14.86%	182	16.85%
52	5.2 Intermediate non-manual workers – foreman and supervisors non-manual	273	1.84%	55	2.20%	29	2.69%	216	1.45%	41	1.64%	17	1.57%
60	6 Junior non-manual workers	616	4.14%	123	4.93%	60	5.56%	2842	19.11%	518	20.74%	252	23.33%
70	7 personal service workers	61	0.41%	10	0.40%	3	0.28%	1725	11.60%	181	7.25%	68	6.30%
80	8 Foreman and supervisors – manual	1194	8.03%	133	5.33%	50	4.63%	115	0.77%	13	0.52%	6	0.56%
90	9 Skilled manual workers	3216	21.63%	295	11.81%	111	10.28%	370	2.49%	33	1.32%	11	1.02%
No code available		2755	18.53%	313	12.54%	123	11.39%	5359	36.04%	777	31.12%	324	30.00%
NA (graduates not present in sweep age 10)		N/A	N/A	198	N/A	55	5.09%	N/A	N/A	198	7.93%	55	5.09%
		14870		2497		1080		14870		2497		1080	

In order to obtain the same unit of measurements for the social class of origin as for the social class of destination, the SEG was translated to NS-SEC as previously discussed, and shown in Appendix A. Sweep at age 10 is used to derive parental social class, as SEG is only available at this age. The 'dominance approach' between mother's and father's social class is used (see for example Werfhorst, Sullivan, and Cheung 2003), in order to increase information availability.

The comparison of the parental social class across the samples can be seen in Table 4.10. Lower percentage of graduates have fathers who are skilled manual workers while higher percentage of them have fathers who are professional employees. As for the mothers of graduates, they are more likely to be intermediate non-manual workers, and less likely to be personal service workers. This implies parental social class is likely to predict children' later life outcomes. The differences between the whole sample of graduates and the analytical sample do not exceed 3%, which indicates that the analytical sample is a reasonable representation of graduates in BCS1970.

4.3.1.1 Aspirations

Human agency, one of main components of the life course theory, perceives the individual as making its own rational decisions and following its own path through life. These choices are seen as contingent upon the opportunities and constraints of social and cultural structures (Elder 1998, Elder Jr 1994). This study incorporates several measures of to-be graduates' aspirations, in order to test the magnitude of their effects in comparison to the structural factors.

The selection of the variables used to measure the aspirations was guided by the career typology described in section 4.2.2. Four indicators of the aspirations were derived from the interviews conducted when the cohort members were age 16, each corresponding to the potential career in later life. The wording of these reflects the wording used in the questionnaire. Those for whom long-term security is an important aspect of a job are expected to follow stable careers. Those who have an aspiration to work for themselves are expected to follow self-employment careers. Those for whom

variety is an important aspect in a job are expected to follow the fragmented career. Those who are interested in family are expected to follow part-time careers.

The distribution of this measurement across the samples is shown in Table 4.11. The comparison of the distribution across the samples is challenging due to the missingness and high proportion of non-informative answers. Amongst the sample with informative answers, the distribution of those who intend to work for themselves, those for whom long term security matters, and those who place greater importance on family lives are comparable. Graduates, however, are more likely to place greater importance on interesting work with variety than the overall sample of the cohort members present the sweep at age 16.

Table 4.11 Representativeness of the analytical sample in terms of aspiration

Source: British Cohort Study 1970 SN 3535

	Job: To work for myself												
Sample	Matters very much		Matters somewhat		Doesn't matter		No questionnaire		Not stated		NA		Total
	N	%	N	%	N	%	N	%	N	%	N	%	N
Whole sample present in the sweep age 16	561	4.83	1601	13.8	3406	29.3	5612	48.3	435	3.8			11615
All graduates	118	4.73	395	15.8	847	33.9	645	25.8	68	2.7	424	17.0	2497
Analytical sample	62	5.74	226	20.9	483	44.7	275	25.5	34	3.2			1080
	Job: Have interesting job with variety												
	Matters very much		Matters somewhat		Doesn't matter		No questionnaire		Not stated		NA		
	N	%	N	%	N	%	N	%	N	%	N	%	
Whole sample present in the sweep age 16	3990	34.4	1440	12.4	192	1.7	5612	48.3	381	3.3			11615
All graduates	1103	44.2	245	9.8	17	0.7	645	25.8	63	2.5	424	17.0	2497
Analytical sample	624	57.8	144	13.3	7	0.7	275	25.5	30	2.8			1080
	Job: To have long term security												
	Matters very much		Matters somewhat		Doesn't matter		No questionnaire		Not stated		NA		
	N	%	N	%	N	%	N	%	N	%	N	%	
Whole sample present in the sweep age 16	3145	27.1	1990	17.	475	4.09	5612	48.3	393	3.4			11615
All graduates	796	31.9	495	19.8	74	3.0	645	25.8	63	2.5	424	17.0	2497
Analytical sample	440	40.7	295	27.3	38	3.5	275	25.5	32	3.0			1080
	Interested in family life												
	Very interested		Quite Interested		Not interested		No questionnaire		Not stated		Not sure		NA		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Whole sample present in the sweep age 16	2104	18.1	2370	20.4	318	2.74	5612	48.3	478	4.1	733	6.3			11615
All graduates	484	19.4	637	25.5	68	2.7	645	25.8	77	3.1	162	6.5	424	17.0	2497
Analytical sample	286	26.5	376	34.8	32	3.0	275	25.5	36	3.3	75	6.9			1080

4.3.1.2 Ability

Under the assumption of meritocracy, ability and effort are the only indicators of later life's outcomes. The impact of ability, especially literacy and numeracy has been previously confirmed (Bynner and Parsons 1997, Crawford and Cribb 2013, Parsons 2002). For example, Galindo-Rueda and Vignoles (2005) show that ability is a good predictor of educational attainment. Nevertheless, the impact of the varying levels of ability within the sample of graduates is less studied. This study tests the extent to which ability, measured during childhood, can predict career types and social mobility trajectory amongst graduates. Two measurements of ability are incorporated, in order to reflect the numeracy and literacy distinction. Numeracy is measured at age 10, when participants took part in the Friendly Maths Test (Hancock 2013). Literacy is measured by the Raw Vocabulary test score, conducted at age 16 (Hancock 2017b).

The distribution of the scores of both tests is compared across the samples in Figure 4.16. It can be seen that the average score is higher and the variation is lower, for both numeracy and literacy, in the graduate subsample compared to the overall sample present in the respective sweeps. The analytical sample offers a reasonable representation of graduates, although the analysis may overestimate the ability of graduates, as the mean scores are slightly higher.

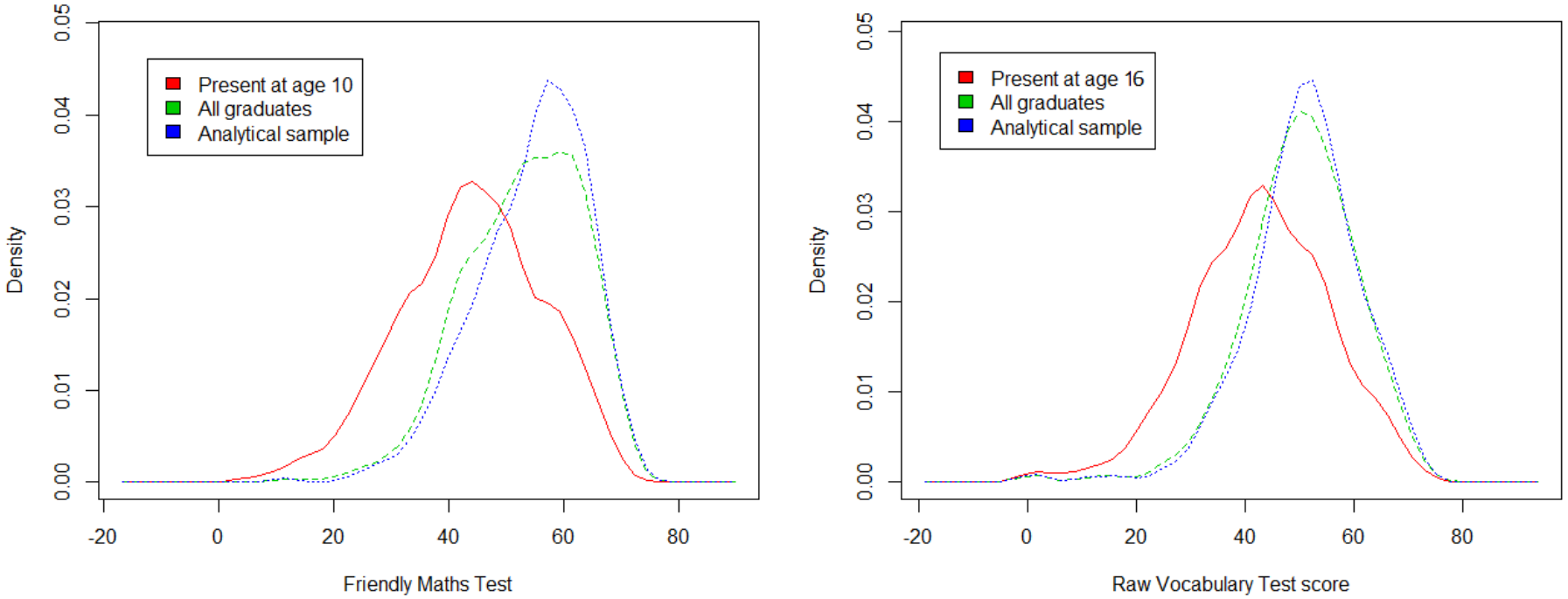


Figure 4.16 Density plots of comparing ability across samples

Source: own compilation of data extracted from British Cohort Study 1970 SN 3723 and 3535;

4.3.2 Higher Education

In addition to the two longitudinal characteristics of higher education, discussed in the previous subsection, three static measurements of the degree are also considered. The rationale for their inclusion is discussed in the section 2.5.2. This section describes how these were derived and how they vary between the analytical sample and the whole sample of graduates. Since non-graduates would not exhibit these characteristics, the comparison with the overall sample is omitted in this subsection.

4.3.2.1 Grade

Graduates with higher-grade degrees are expected to be more likely to secure jobs related to higher social classes. In the UK the degrees are classified, in order from the highest to the lowest, as "First-class honours", "Second-class honours, upper division" or "2:1", "Second-class honours, lower division" or "2:2", "Third-class honours" or "Pass". For the purpose of comparability across graduates, the grade from first degree is used for all graduates. Although this approach ignores postgraduates, these are likely to be reflects by the degree grade of first degree in combination of the timing of last transition out of education. This information has been collected at sweeps age 30, 34, 38 and 42, and therefore the earliest value is used, where available. If not available, the value was replaced with the grade from subsequent sweep. As the frequencies of the first-class degrees and the pass degrees are low, the first-class degrees are aggregated with upper second, and the pass grade degrees are aggregated with the third-class degrees in further analysis.

The comparison of the sample of graduates to the analytical sample can be seen in Table 4.12. The analytical sample has lower portion of missing values, which obscures comparison. However, the distribution of grades is comparable between the samples, when ignoring the missing values. It can be seen that the highest proportion of graduates obtained upper second and lower second grades.

Table 4.12 Representativeness of the analytical sample in terms of degree grade

Source: British Cohort Study 1970 SN 5558, SN 5585, SN 6557, and SN 7473

Sample	First		Upper second [2:1]		Lower second [2:2]		Third		Pass		NA		Total
	N	%	N	%	N	%	N	%	N	%	N	%	
All graduates	182	7.29	832	33.3	668	26.8	75	3.00	180	7.21	560	22	2497
Analytical sample	87	8.06	412	38.2	307	28.4	33	3.06	81	7.50	160	15	1080

4.3.2.2 Institution

The institution is used in order to proxy the prestige of the obtained qualification, as it has been recently recognised to impact on later life outcomes (Britton et al. 2017, 2016). The classification of the universities related to the stages of educational expansion, as shown in Figure 3.5. This information has only been collected at the most recent sweep, at age 42. The institutions have been aggregated into three groups: old universities (founded before 1950, including ancient universities), Pre-92 universities (founded from 1950s to 1992), and Post 92 institutions. The detailed classification of specific institutions is shown in Appendix G. The same classification and labelling has previously been used by Jacob, Klein, and Iannelli (2015).

The comparison of the distribution of the institutions can be seen in Table 4.13. It shows that the majority of degrees have been obtained from the modern, Post 92 institutions, while the fewest were awarded by the Pre-92 universities. The analytical sample appears to be representative of the whole sample of graduates.

Table 4.13 Representativeness of the analytical sample in terms of institution attended

Source: British Cohort Study 1970 SN 7473

	Pre 92		Old Universities		Post 92		NA		Total
	N	%	N	%	N	%	N	%	
All graduates	480	19.22	659	26.39	955	38.25	403	16.14	2497
Analytical sample	225	20.83	303	28.06	402	37.22	150	13.89	1080

4.3.2.3 Field of Study

Field of study has been shown in previous studies to have an impact on later life outcomes, as discussed in section 2.5.2. This information, similarly to the institution, has been collected only in the most recent sweep. Following Parsons, Green, and Sullivan (2016) and Walker and Zhu (2011) the subjects studied were classified into 4 groups: STEM (Science, Technology, Engineering and Mathematics), LEM (Law, Economics and Management), OSSAH (other social sciences, arts and humanities, including languages), and COMB (combined subject degrees)[3].

The comparison of the distribution of the field of study can be seen in Table 4.14. It shows that the majority of degrees have been obtained in either STEM or OSSAH subjects. The analytical sample appears to be representative of the whole sample of graduates, as the proportion are comparable.

Table 4.14 Representativeness of the analytical sample in terms of field of study

Source: British Cohort Study 1970 SN 7473

	COMB		LEM		OSSAH		STEM		NA		Total
	N	%	N	%	N	%	N	%	N	%	
All graduates	163	6.53	421	16.9	767	30.7	787	31.5	359	14.4	2497
Analytical sample	76	7.04	171	15.8	349	32.3	355	32.9	129	11.9	1080

4.4 Concluding Thoughts

This chapter described the processes by which the measurements, used for further inferential analysis were derived. The summary of these variable, and the corresponding chapters in which these measurements are incorporated can be seen in Table 4.15.

[3] In cases where graduates stated to have degrees in more than one subject, and when these subjects did not belong to the same classification of the fields of study they were also assigned to COMB group.

Table 4.15 Summary of variables used in the following inferential analysis

Source: British Cohort Study 1970 (analytical sample)

Time horizon of the measurement	Chapter in which the variable is introduced	Variable	Levels of variable (if categorical)	Unit of variable (if continuous)
Longitudinal	Chapter 5	Social Mobility Typology	Lateral Linear	NA
			Lateral Non-linear	NA
			Upward Linear	NA
			Upward Non-linear	NA
			Downward	NA
		Career typology	Stable	NA
			Part-time	NA
			Self-employed	NA
			Fragmented	NA
	Chapter 6	If moved in Childhood	Moved	NA
			Not moved	NA
		Housing Tenure	Being bought across childhood sweeps	NA
			Rented in childhood	NA
	Chapter 7	Migration typology	Complex Movers	NA
			Stayers in Non-escalators	NA
			Stayers in and Lasting Movers to Escalators	NA
			Temporary Movers	NA
	Chapter 8	Frequency of education spells	one spell	NA
			multiple spells	NA
		Timing of education	NA	Age at last transition out of education
Static	Chapter 6	Local unemployment rate	NA	% of people seeking employment in the county or region
		Ratio of professional workers	NA	% of people employed in professional occupation to all economically active in the county or region
		part-time employment rate	NA	% of part-time workers to all those economically active in the county or region

Time horizon of the measurement	Chapter in which the variable is introduced	Variable	Levels of variable (if categorical)	Unit of variable (if continuous)
		Industry Sector	Primary	NA
			Secondary	NA
			Tertiary	NA
		Gender	male	NA
			female	NA
		Parental social class	NS-Sec 1	NA
			NS-Sec 2	NA
			Ns-Sec 3 and 4	NA
			Ns-Sec 5 to 7	NA
		Importance of working for self	Doesn't matter	NA
			matters	NA
		Importance of variety in a job	matters very much	NA
			matters less	NA
		Importance of security in a job	matters very much	NA
			matters less	NA
		Importance of family life	very interested	NA
			quite interested	NA
			not interested or sure	NA
		Ability (Maths)	NA	Friendly maths test score
		Ability (Vocabulary)	NA	Raw vocabulary test score
	Chapter 8	Degree grade	First or 2:1	NA
			2:2	NA
			Third or pass	NA
		Institution	Old universities (founded before 1950)	NA
			Pre 92 universities (from 1950s to 1992)	NA
			Post 92	NA
		Field of study	STEM	NA
			LEM	NA
			OSSAH	NA
			COMB	NA

The above description shows that many aspects of the life course dynamic could not be captured effectively with static measures, highlighting the importance of longitudinal measurements of social concepts, especially if these can change over time. For example, measuring one's social class could give very different results, depending

on the time point at which it is measured, even during their occupational maturity stage. This is especially important for the individual's social class trajectories as frequent changes in the social class can be observed. While many previous studies compare the social class of origin to the social class of destination at a point in time, this investigation shows that in such comparisons different conclusions could be reached when different time point are used. Especially in the era of destandardisation of the life course, measuring the change or lack of change over time, furthers the understanding of social mobility dynamics.

Moreover, evaluation of the distribution of the individual measurements across the three samples, although impeded by the missing data, confirms that graduates systematically differ from the overall population. While the career trajectories, evaluated in terms of the economic activity do not appear to vary between the samples, the jobs graduates performed are more commonly related to higher social classes. This may be partially explained by their merit. The comparison of the samples shows that graduates are more able and more likely to strive to interesting jobs with variety. However, they also systematically vary from the overall sample in terms of their privilege experienced in the childhood. Graduates' parents are more likely to work in occupation related to higher social classes, and they are less likely to live in rented accommodation. This implies that the chances of becoming graduates are dependent on the background factor, which contradicts the assumption of meritocracy.

Finally, the analytical sample appears to be a representative reflection of the sample of graduates, with the exception of slight overrepresentation of females. This indicates that the analytical sample provides a reasonably fair representation of the graduates in this birth cohort. Although the percentages of missing data are lower in the analytical sample, the comparison based on the valid responses indicates that the deviations are likely to occur by chance.

Chapter 5 Routes to Social Mobility

> "*They get on with their lives quietly, going about their business, going out to work, raising families, helping neighbours, making their communities what they are (…) They want to believe that everyone plays by the same rules and things are fair.*"
>
> *Theresa May (2016)*

5.1 Introduction

This chapter aims to answer RQ1, which asks: what are graduates' typical intra-generational social mobility trajectories, and to what extent can they be explained by different types of career pathways? It builds on the literature discussed in sections 2.2 and 2.3, where the links between the main areas of concern in the social mobility debates, and the broader, yet more theoretical, boundaryless career literature were drawn. This mutually complementary nexus of knowledge has the potential to alleviate the limitation present in both of these strands of literature. In order to achieve this aim, the approach detailed in section 3.5 was applied, in which sequence analysis was utilised to develop of typology of social mobility trajectories and career pathways, as detailed in sections 4.2.1 and 4.2.2 respectively. A set of logistic regressions was then used in order to quantify the relationship between these concepts, as detailed in section 3.5.2. This chapter reiterates the background behind this analysis, which is followed by the presentation and discussion of the findings. The final section concludes with the overview of the findings.

5.2 Background

Several implicit assumptions underline the majority of previous, quantitative social mobility research. These are most commonly related to simplifications, which are often needed in order to conduct quantitative analyses. For example, as discussed in

more detail in the Chapter 2, it is often assumed that graduates remain in full-time paid employment for the whole duration on their working lives, and they gradually climb up the career ladder, eventually reaching the top. What is more, since the majority of studies to date focused on inter-generational social mobility (Tampubolon 2009), another commonly expressed assumption is that, as long as any the given individual works in occupation related to higher social class than that of his/her parents, things are getting better.

Relying on these assumptions is convenient for practical reasons. Cross-sectional analysis of a homogeneous sample is more straightforward than analysis of the changes observed over time of a heterogeneous sample. For example, empirical studies often focus only on those in full-time paid employment, while those who do not meet this criterion, such as part-timers or the self-employed, are labelled as outliers and discarded from the analytical samples (Mulhall 2011). Similarly, those who are not in active employment at the time of the study, due to career breaks, unemployment, maternity/paternity leave etc., are also likely to be excluded. This makes comparison between individuals straightforward, because the variability due to different forms of employment and due to passing time can be excluded.

Nevertheless, the results from these studies can be generalised to the whole population of, for example, graduates. These populations tend to include people experiencing circumstances, which had previously been excluded from the analytical samples for practical reasons. As long as such cases are truly 'extreme', such generalisation are valid. However, in the era of life course destandardisation (Brückner and Mayer 2005, Elzinga and Liefbroer 2007), limiting the analytical sample to standard careers and extrapolating the results to everyone, is likely to lead to misunderstandings. For example, the conclusion reached by a study based on graduates who continually worked in full-time paid employment, might not apply to those who mostly worked part-time, those who were self-employed, and those who have had interruptions in their career histories. These career types are likely to operate on different principles.

At the same time, a large number of theoretical studies, discussed in more detail in chapter 2, speculate that the careers have become 'boundaryless'. The positive picture painted by boundaryless career literature suggests that, since individuals are bounded by occupational and organisational structures to a lesser extent than they were in the past, they have greater freedom to allocate their knowledge and skills into the employment of their choice. However, others 'have raised important questions (…) whether the assumption of agency in boundaryless career theory privileges educated elites and marginalizes lower-skilled workers, women and minorities for whom boundarylessness simply means unemployment, insecurity and anxiety' (Inkson et al. 2012, p.328), painting less optimistic picture in which the stable careers became a privilege, which only the most advantaged can afford.

The assumption of homogeneous graduates in full-time paid employment does not appear plausible in the era of destandardisation and boundaryless careers, and the empirical evidence with respect to those who do not conform to this traditional career paradigm is scarce (Baruch 2004, Gubler, Arnold, and Coombs 2014). This lack of empirical basis makes formulating expectations with respect to the relationship between economic activity and social mobility trajectories challenging. Do graduates choose part-time employment over full-time employment, so they can spend more time to spend on their hobbies or with their families? Or, are they willing to accept this form of employment, because it is more rewarding than unemployment? Are graduates choosing self-employment due to their entrepreneurial drive and a desire for greater independence? Or, are they 'pushed' into this form of employment due to unavailability of alternative options? Can greater variability in employment experience be a result of graduates pro-actively navigating their career building process, or are these indicatives of insecurity they experienced?

This chapters aims at disentangles the relationship between the types of economic activity trajectories and the types of intra-generational social mobility, with a view to provide some answers to such questions. It firstly explores the characteristics of the intra-generational social mobility trajectories typology, the development of which has been detailed in section 4.2.1, in order to better understand the differences between

these trajectory types. It then replicates the same exploration for the career typology of the same sample of graduates, the development of which has been detailed in section 4.2.2. In the penultimate section, it examines the significance, magnitude, and direction of the relationships between these two concepts, by a set of logistic regressions, as described in section 3.5.2.

5.3 Intra-generational Social Mobility

This section presents the typology of social mobility trajectories, and evaluates each type in a separate subsection. Four descriptive plots are shown for each type of social mobility trajectories, which can be seen in Figures 5.1, 5.2, 5.3, 5.4 and 5.5. In all plots the colours correspond to the categories of NS-SEC social class, as indicated in the meantime plots, where the jobs related to higher occupations are shown in shades of green, and jobs related to the lower occupations are presented with red and orange. In the index plots each horizontal line represents a graduate's social class history over the period of 25 years. The y-axis shows the total number of observations, and the x-axis represents graduates' age. The white spells indicate that the person has not been in active employment, and therefore the corresponding social class does not exist. In the state distribution plots, the x-axis also reflects age, while y-axis represents the percentage of people in the given group, who at a given time were in a given state. Thus, the interpretation of the state distribution plots is the same as of stacked bar charts. The state frequency plots display 10 most frequent sequences. The width of the bars representing the sequences is proportional to their frequencies. These plots also display the cumulative percentage which these 10 sequences add up to. Sequences are displayed bottom-up in decreasing order of their frequencies. The final plots show the means and error bars of the time spent in the given state in months.

5.3.1 Lateral Linear

This type of social mobility trajectories accounts for 25% of the analytical sample (N=266). Contrary to what was expected, these social mobility trajectories are the most advantaged and privileged. As shown in Figure 5.1, graduates on these trajectories

have been in advantaged positions throughout the whole duration of their employment. The majority of graduates on these trajectories entered the labour market around the age of 21/22, already in the managerial and professional occupations, and remain in these occupations until the end of the observation window. Furthermore, as seen by the white spells in Figure 5.1, even those who interrupted their employment, re-enter the labour market in jobs related to the same social class upon their return to employment. These graduates, on average, spend the majority of time in higher managerial and professional occupations (11 years), and less than any other type in intermediate occupations (6.9 months) or semi-routine and routine occupations (3.5 months).

As shown in Appendix M, graduates with lateral linear social mobility trajectories are most likely to have work their whole lives in professional occupations (ISCO 88 – major group 2). Two substantially smaller groups include legislators, senior officials, and managers (ISCO 88 – major group 1), as well as technical and associate professional (ISCO 88 – major group 3).

5.3.2 Lateral Non-linear

These type of social mobility trajectories represent 17% of the analytical sample (N=184). As shown in Figure 5.2, these trajectories are much more precarious and internally varied than the previously-described type. The most frequent sequences account only for 5.4%, while for lateral linear trajectories these percentage was equal to 26.1%. Graduates following these trajectories are in occupation related to the same social class at age 42 as they entered the labour market. However, spells of underemployment (employment that is related to lower social class than the jobs previously performed) are very common. All of these graduates having progressed to a higher social class, downgrade to occupation related to lower social class after some time. In the most frequent sequence, for example, graduates downgrade from lower managerial and professional occupations to intermediate occupation around age 30 and do not return to the managerial and professional occupation until age 38. These graduates, similarly as those on lateral linear trajectories, spend on average the

majority of time in lower managerial and professional occupation (10 years). However, average time spent in intermediate (4 years) and semi routine and routine occupations (1 years) is longer than for those with lateral linear social mobility trajectories. Interestingly, graduates on this social mobility trajectory type, comparing to the other types, spend the longest average amount of time in in intermediate jobs, and the shortest amount of time in higher managerial jobs. This implies that this type can be seen, not only as less advantaged than the lateral linear type, but might be even considered as less advantaged than the downward social mobility trajectories.

As shown in Appendix M, graduates on lateral non-linear social mobility trajectories appear to intertwine spells of work in professional occupations (ISCO 88 – major group 2), as legislators, senior officials, and managers (ISCO 88 – major group 1), and as technical and associate professional (ISCO 88 – major group 3). However, one substantial difference between lateral linear, and lateral non-linear social mobility trajectory is that work as clerks (ISCO 88 – major group 4) is also very common in this case, and across the whole period of cohort members' working lives.

5.3.3 Upward Linear

Upward linear social mobility trajectories are the most common type. They are followed by 27% of graduates in the analytical sample (N=290). As shown in Figure 5.3, these graduates enter the labour market relatively early, with 40% of them in employment at age 19. However, this employment is most commonly related to the lowest social classes at that time, most likely 'student jobs' or internships. Every subsequent job in these graduates' trajectories is related to higher social class than the previous occupation, with over 80% of them working in the professional or managerial occupation by age 30. At age 42, the proportion of graduates in professional and managerial occupations is comparable to those on lateral linear social mobility trajectories. This observation points to the importance of longitudinal studies, as the cross-sectional approach would not be able to detect any differences between these two groups at age 42, regardless of the fact that these graduates had much more turbulent paths, compared to the graduates on lateral linear type, in order to get to the

same position. The 10 most frequent sequences account for only 3.4%, which is the lowest percentage across all social mobility trajectory types, indicating the lowest degree of homogeneity. They also spend the majority of time, on average, in lower managerial and professional occupations (10 years). The average time spend in higher professional and managerial occupations is the second highest (over 6 years), and in the routine and semi routine occupation second lowest (1 year), which closely follows the lateral linear type.

As shown in Appendix M, the majority of graduates on lateral upward linear social mobility trajectories work as clerks (ISCO 88 – major group 4) for prolonged periods of their early careers. However, there are also individual cases, who work as crafts and related trade workers (ISCO 88 – major group 7), plan and machine operators and assemblers (ISCO 88 – major group 8), and in elementary occupations (ISCO 88-major group 9). During their twenties and thirties, the majority of people transitions into professional occupation (ISCO 88 – major group 2). Transitions into legislators, senior officials, and managers (ISCO 88 – major group 1), and technical and associate professional (ISCO 88 – major group 3), are also relatively common.

5.3.4 Upward Non-linear

Upward non-linear social mobility trajectories represent 22% of the analytical sample (N=234). As shown in Figure 5.4, these graduates are in occupation related to higher social class at age 42 than the occupations via which they entered the labour market. However, spells of underemployment are very common. Their trajectories are very similar to those from upward linear type in early life, until they reach the age 23. However, graduates in these trajectories remained for longer in the entry-level jobs, and substantially lower proportion of them progressed to managerial and professional occupations during their late 20s and early 30s. Even during their 30s, the spells of routine occupation are common. As compared to graduates on upward linear trajectories, they spend less time managerial occupations, and more time in intermediate, routine and semi routine occupations.

As shown in Appendix M, the occupation of those on upward non-linear social mobility trajectories are very similar to those on upward linear social mobility trajectories during the early stages of their career. The transitions to occupations related to higher groups, however, are more prolonged and spells of work in professional occupation (ISCO 88 – major group 2), as legislators, senior officials, and managers (ISCO 88 – major group 1), and as technical and associate professional (ISCO 88 – major group 3), are often intertwined with spells of clerical work (ISCO 88 – major group 4) even during later stages of their careers.

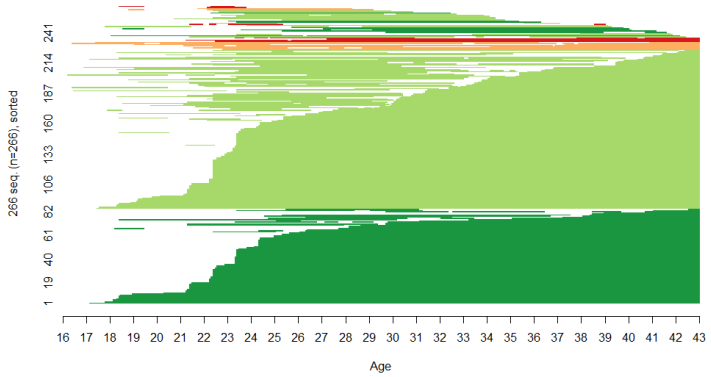
5.3.5 Downward

The final type of social mobility trajectories is downward. These social mobility trajectories are the least frequently followed, and represent only 10% of the analytical sample (N=106). Due to the relatively small sample size, the distinction between linear and non-linear trajectories is not made for downward social mobility. As shown in Figure 5.5, the majority of graduates on these social mobility trajectories enters the labour market around age 21, via jobs related to higher social classes than the jobs they performed at age 42. This decline usually occurs in early 30s, and only 30% of them perform lower managerial and professional occupations at age 42, while none of them are in higher managerial and professional occupation, despite the fact that the majority of them experienced episodes of these jobs in earlier life. This group spends the least average time in the lower managerial and professional occupation (8 years).

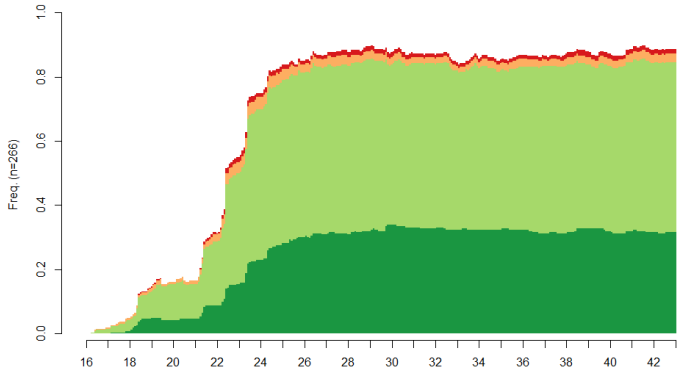
As shown in Appendix M, substantial proportion of those on downward social mobility trajectories worked in professional occupation (ISCO 88 – major group 2) at some point in their lives. Less, but also relatively common, are spells of work as legislators, senior officials, and managers (ISCO 88 – major group 1), and as technical and associate professional (ISCO 88 – major group 3). However, during their late thirties and early forties, substantial proportion of graduates' transitions into work as service workers or shop and market sales workers (ISCO 88 – major group 5). These occupations are uncommon for any other social mobility trajectory types. During this

stage transitions into technical and associate professional (ISCO 88 – major group 3), as well as clerks (ISCO 88 – major group 4) are also common.

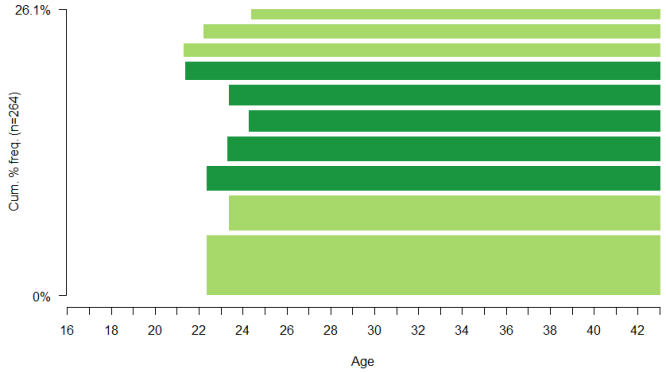
Index plot



State distribution plot



State frequency



Mean time in each state

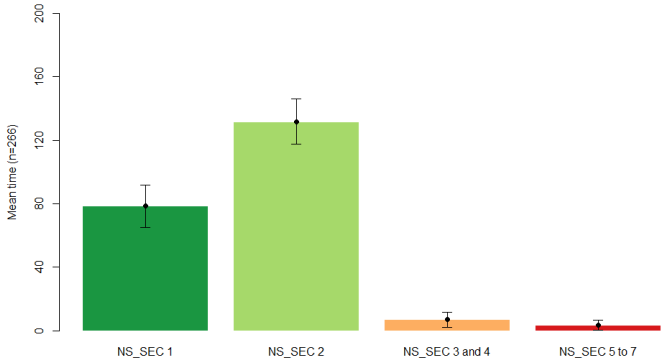
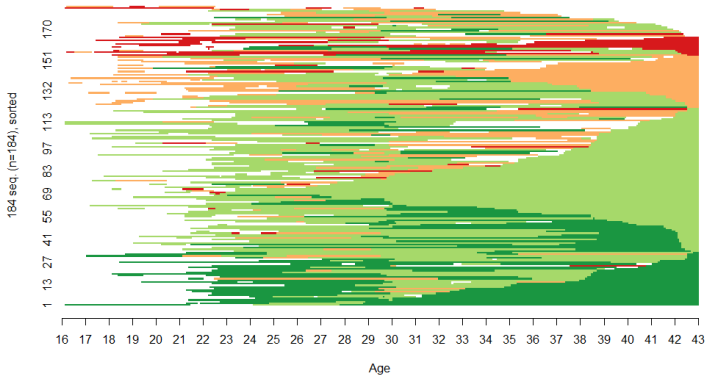
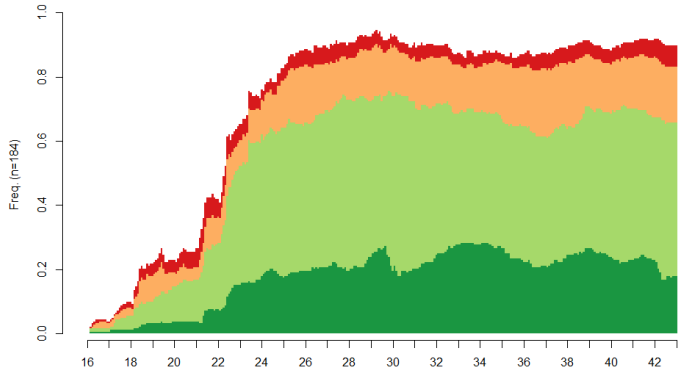


Figure 5.1 Descriptive plots for Lateral Linear Mobility
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

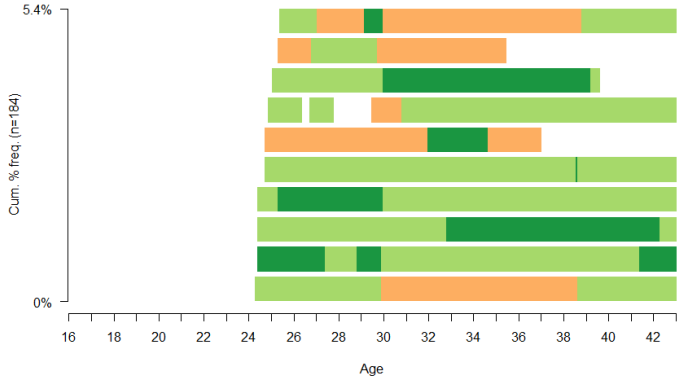
Index plot



State distribution plot



State frequency



Mean time in each state

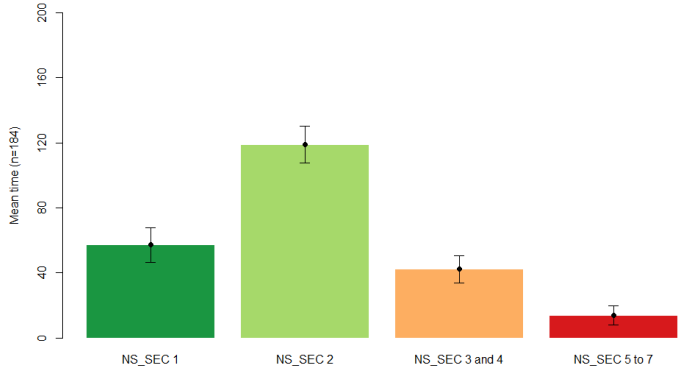
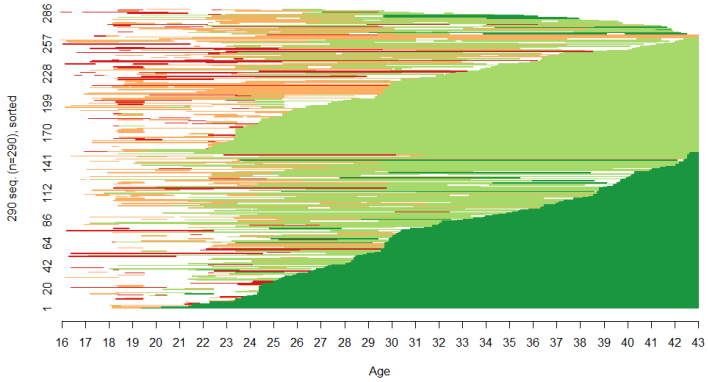
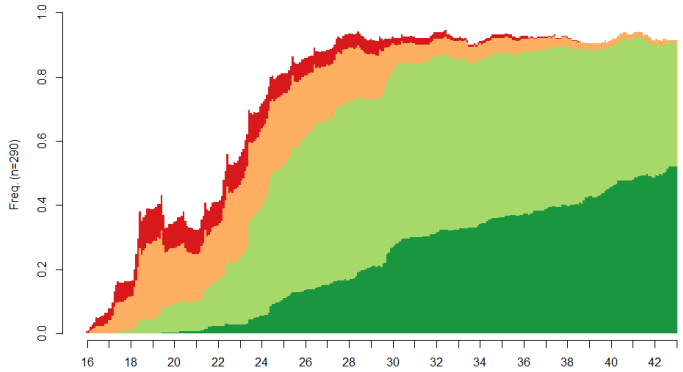


Figure 5.2 Descriptive plots for Lateral Non-linear Mobility
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

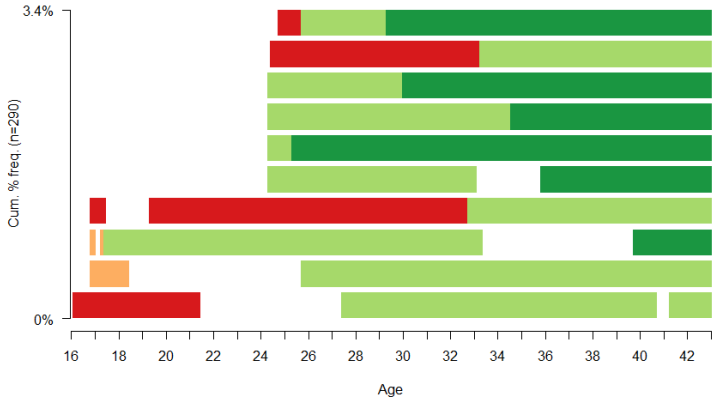
Index plot



State distribution plot



State frequency



Mean time in each state

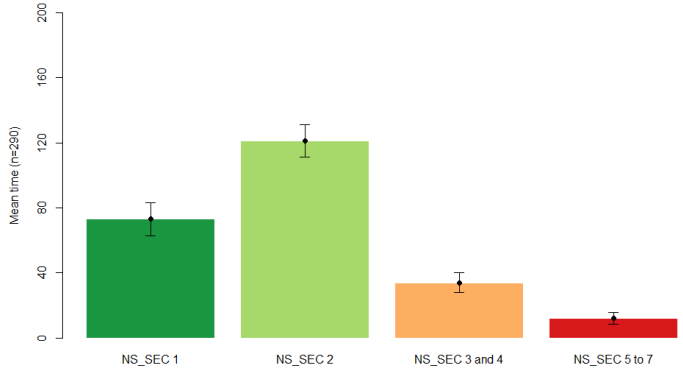
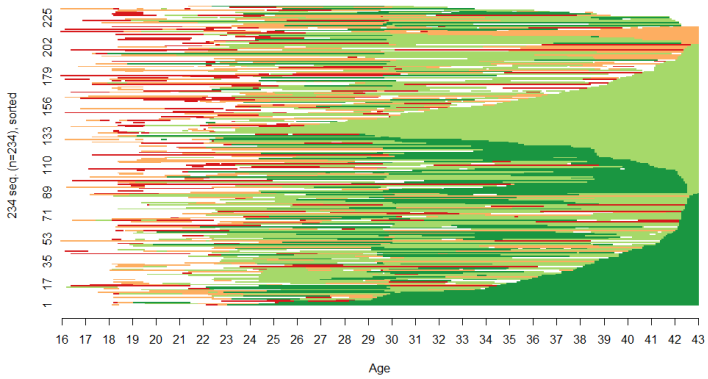
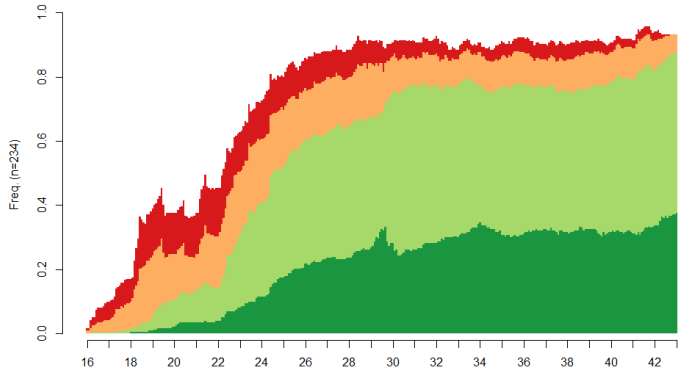


Figure 5.3 Descriptive plots for Upward Linear Mobility
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

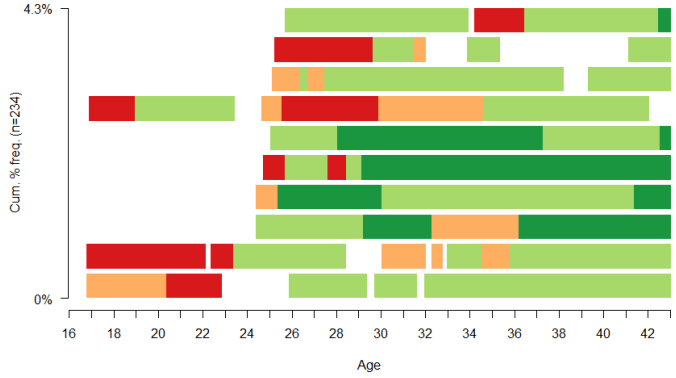
Index plot



State distribution plot



State frequency



Mean time in each state

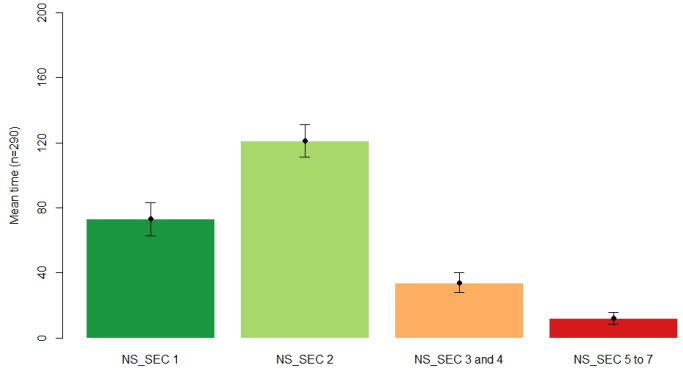
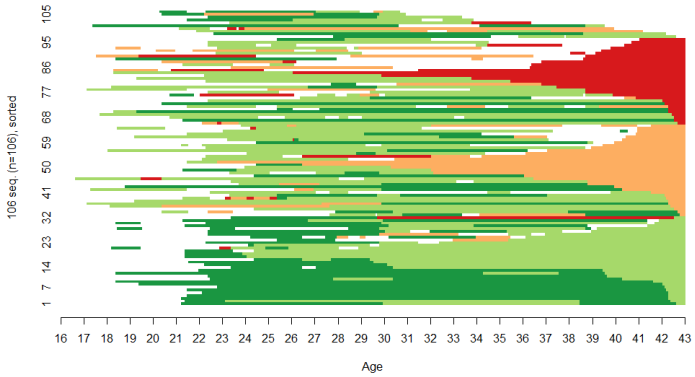
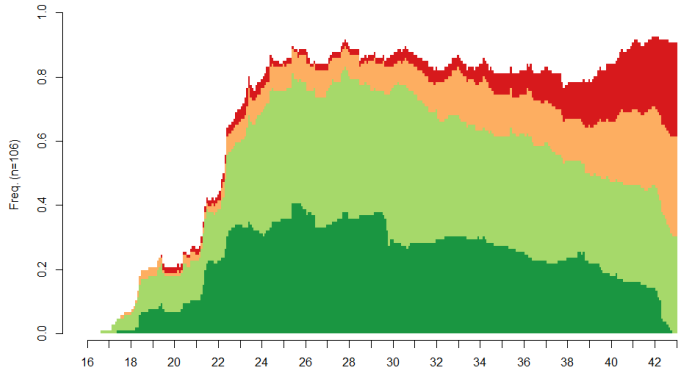


Figure 5.4 Descriptive plots for Upward Non-linear Mobility
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

Index plot



State distribution plot



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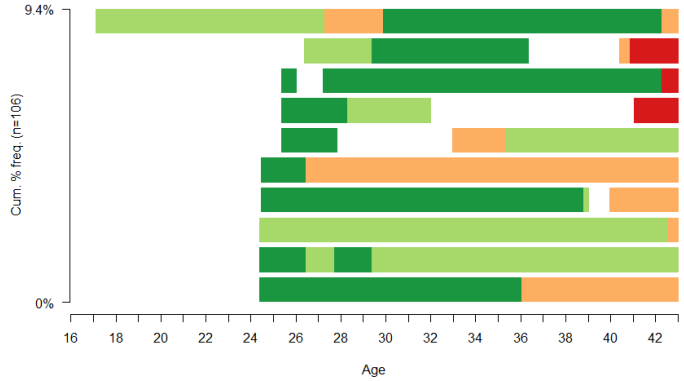


Mean time in each state

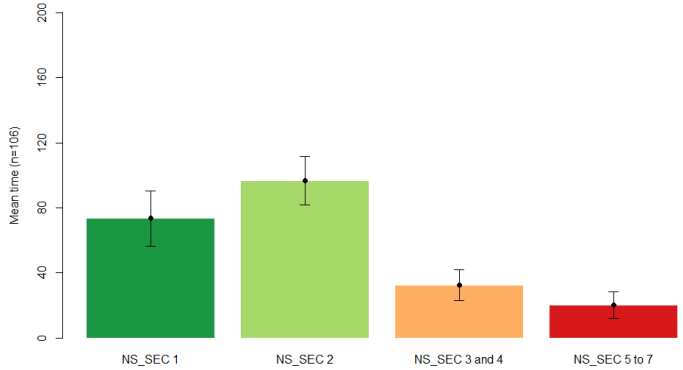


Figure 5.5 Descriptive plots for Downward Mobility
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

5.4 Career Typology

This section explores the types of careers, which are based on the economic activity history. The same four plots as in previous section are presented for each type, therefore their interpretation is the same as described in section 5.3. These are shown in Figure 5.6, 5.7, 5.8, and 5.9. In this case, the colours correspond to the aggregated economic activities, as classified in the Appendix B. These, as previously, can be read of the mean time plots.

5.4.1 Stable Careers

As shown in Figure 5.6, stable careers are characterised by education, as a distinct stage of early life, followed by continuous paid employment. Although such employment dynamics are often taken for granted, only 31% of graduates in the analytical sample follows this career type (N=330). This percentage is not only lower than expected based on the literature described in Chapter 2, but also lower than the proportion of graduates on fragmented paths, discussed later in this chapter. This finding is somewhat striking. Graduates on these careers continue education past the compulsory stage, for at least a year. The highest proportion of them left education at age 22. Upon completion of education they entered full-time paid employment. By the time they were 22, almost half of them were already employed, and by the time they were 26 all of them were in full-time paid employment. These graduates spend on average 5.2 years in education and 20.8 years in full-time paid employment. These values reflect the shortest average time spent in education, and the longest average time spent in full-time paid employment across all types. They do not spend any time in any other economic activity.

5.4.2 Part-timers

Part-timers compose 25 % of the analytical sample (N=267). As shown in Figure 5.7, these career paths are much more internally varied and diverse, than stable careers.

Most, but not all, of the graduates in this group are in education in their late teens and early 20s. During the late 20s, the full-time employment is the modal state in this career type, and many of them transition into part-time paid employment in their early 30s. The proportion of part-time employed in this groups reaches over 50% by the time they were 35, and remains at that or higher level until the end of the observation window. Another commonly occurring state in this group is 'looking after the family', which reaches the highest percentage between age 33 and 35. Part-time self-employment is also common during their later life. These graduates spend on average the longest amount of time in part-time employment, both paid and self-employment (7.3 years and 1 year respectively) across all types. Average time spend looking after the family is also the highest (1.6 years), while time spent unemployed is the lowest (2.2 moths).

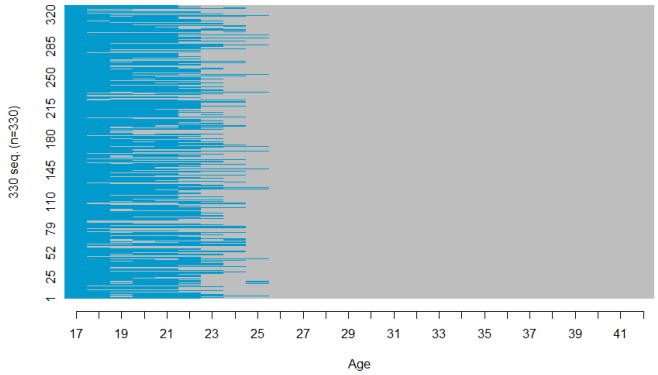
5.4.3 Self-employed

Graduates on the self-employed career type are the smallest groups, reflecting only 12% of the analytical sample (N=125). These graduates spend at least 3 years in self-employment. During their early career, education is the modal state, which is the most commonly followed by a short period of full-time paid employment. However, by the time they are age 25, around 10% of them were already in self-employment and this percentage steadily increased over time, reaching over 60% of the sample by the time they are 42. Interestingly, also this group spent the longest in full-time paid employment (9 years), as compared to the other states. However, this average time is the shortest across all types. This further confirms that the longitudinal perspective is vital. As the average time spend in full-time paid employment is the highest in all career types, it could be tempting to consider all career types as similar, despite the clear differences in timing and sequencing of the employment spells. Graduates on self-employed careers also spent the shortest amount of time in inactivity (3.7 months) and looking after the family (3.6 months).

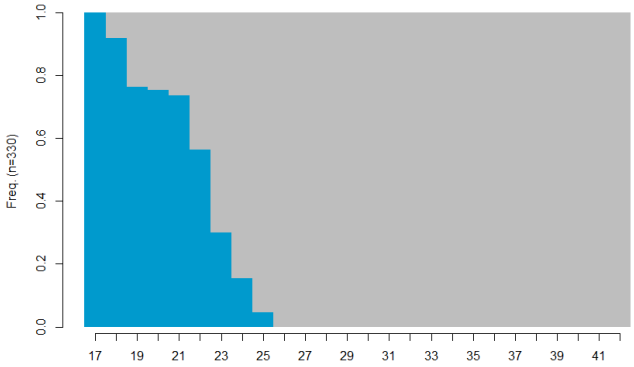
5.4.4 Fragmented Careers

Fragmented careers are the final career type distinguished in this study. As shown in Figure 5.9, it is also the most frequently followed, as the frequency accounts for 33% of graduates in analytical sample (N=358). Although most of the graduates on this career type are in full-time paid employment from the age of 23, all of them take time out of full-time paid work, and their employment is always intersected by at least one other economic activity. The time out of work is most commonly taken to look after family, or for unemployment, and inactivity. Across all career types, this group spends the longest in education (6 years), as well as in inactivity and in unemployment (6 months for both inactivity and unemployment). For comparison, the average duration of unemployment is 2 months for part-timers and 3 months for self-employed.

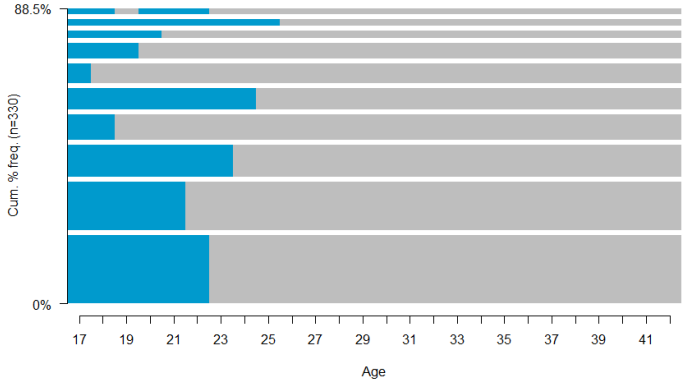
Index plot



State distribution plot



State frequency



Mean time in each state

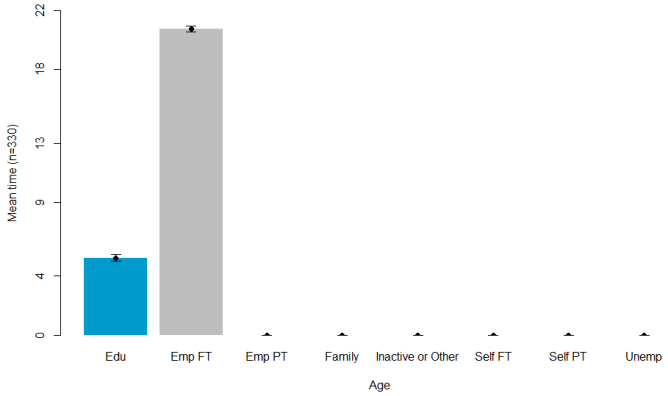
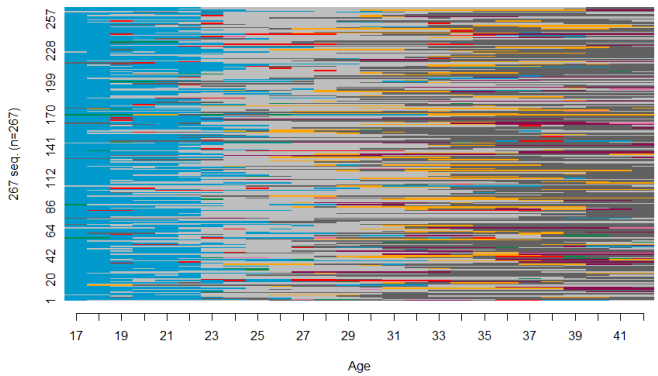
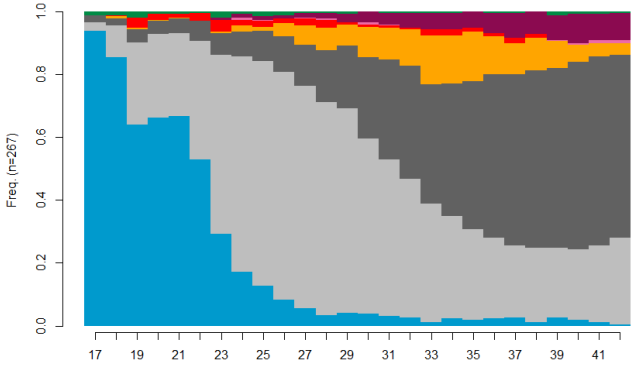


Figure 5.6 Descriptive plots for stable career typology
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

Index plot



State distribution plot



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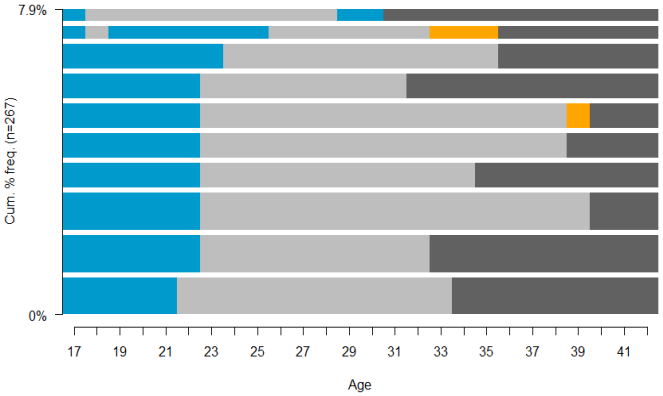


Mean time in each state

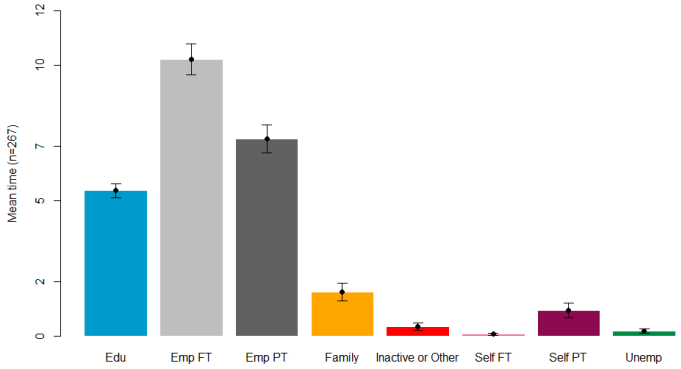
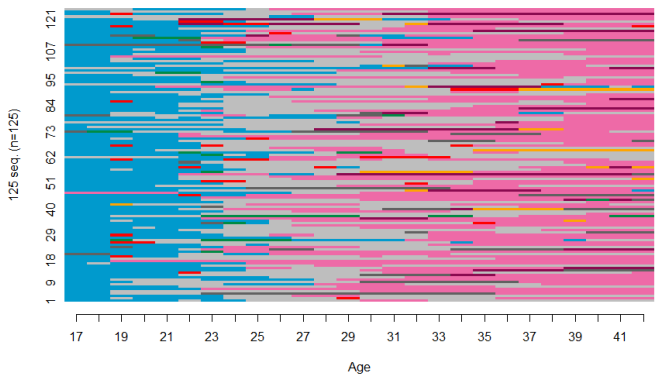
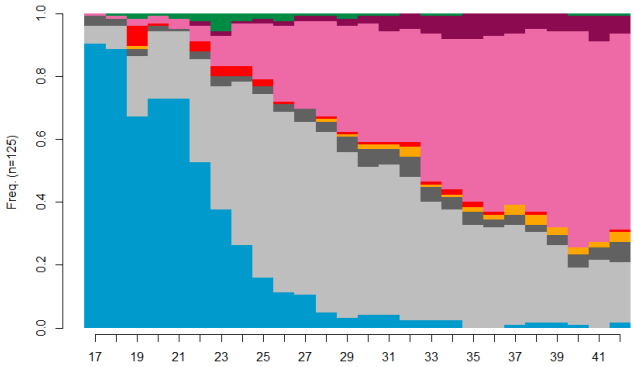


Figure 5.7 Descriptive plots for part-time career typology
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

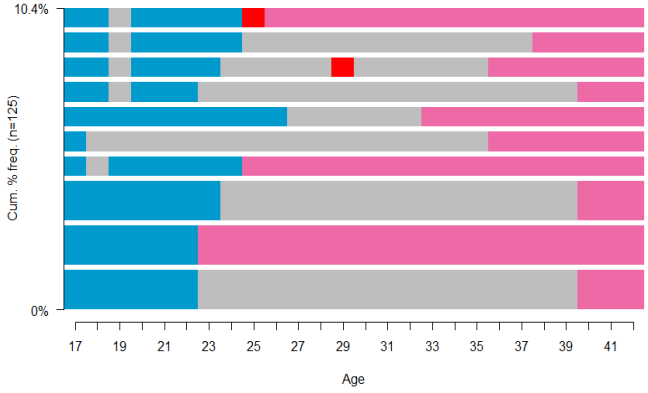
Index plot



State distribution plot



State frequency



Mean time in each state

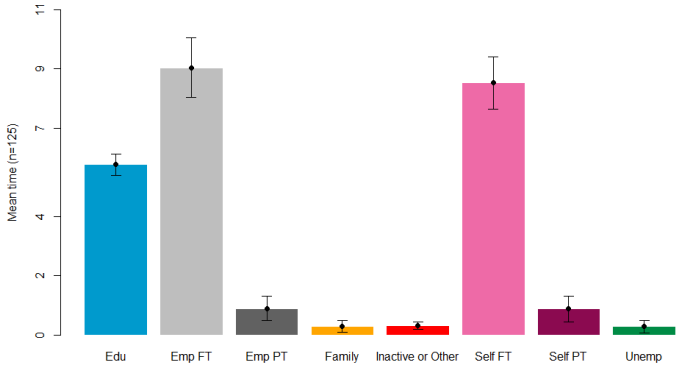
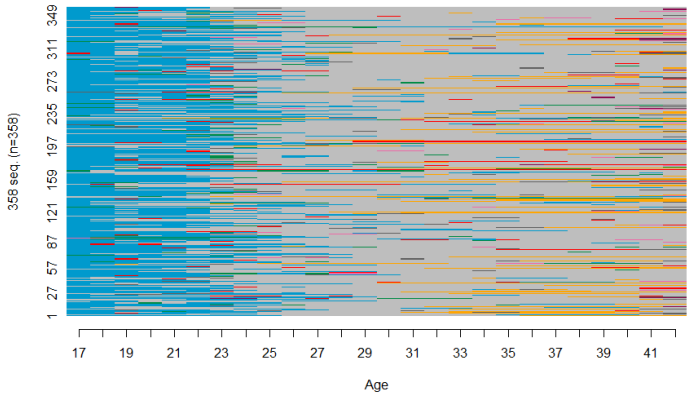
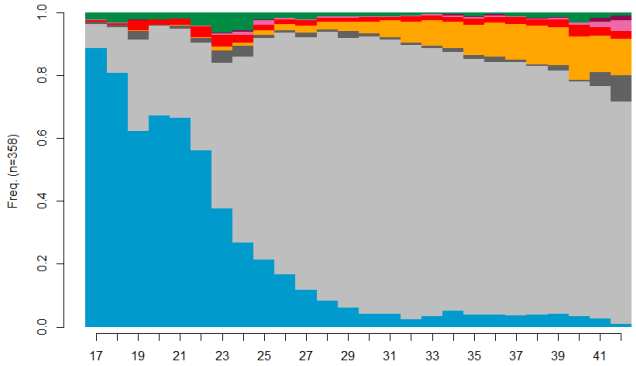


Figure 5.8 Descriptive plots for self-employed career typology
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

Index plot



State distribution plot



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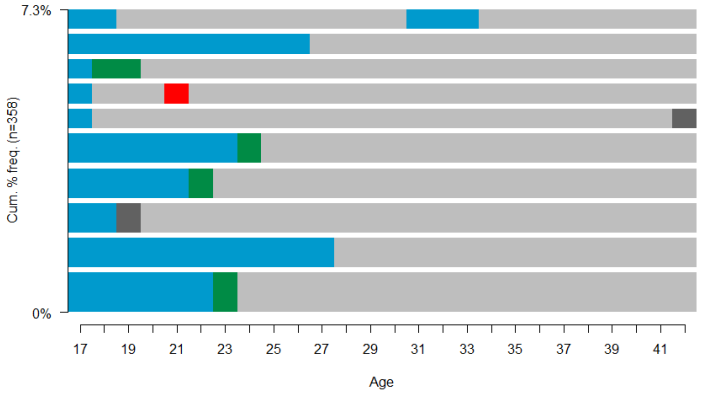

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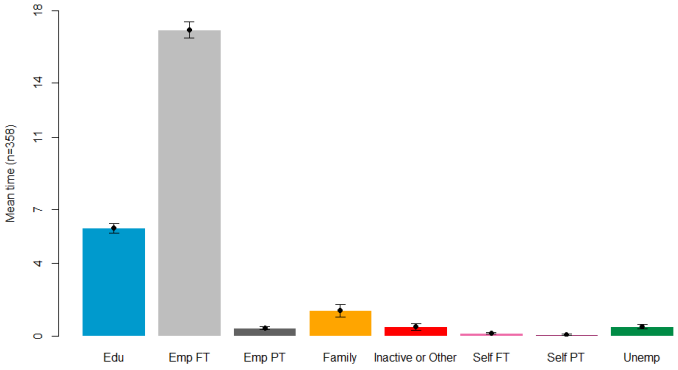

Figure 5.9 Descriptive plots for fragmented career typology
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

5.5 The Relationship between Social Mobility and Careers

In this section, statistical analyses are conducted in order to infer the relationship between careers and social mobility, the two variables described in the previous two sections. This relationship is statistically significant (χ-squared = 47.075, df = 12, p-value = 4.525e-06), which indicates the career type and the direction of social mobility are not independent of each other. As can also be seen from Table 5.1, the highest percentage of the total sample follows stable career, which are upward linear. However, the percentage of graduates in this group is only 9.7 % of the analytical sample. This confirms that discarding the remaining 90.3% of graduates, as outliers would be unwise. Moreover, while it is true that out of all those graduates who are upwardly linearly mobile, those on stable career reflect the highest percentage (36%), this is very closely followed by the percentage of those on fragmented career who are upwardly mobile (35%). This might indicate that the labour market rewards both stable and fragmented careers.

The second highest percentage of the analytical sample are the graduates on fragmented careers who are upwardly non-linearly mobile (9.5%). This indicates that, while graduates on fragmented careers are likely to experience spells of underemployment, these careers also facilitate upward social mobility. Out of those whose mobility trajectories were lateral linear, the most advantaged social mobility trajectory type, the highest percentage have had stable careers (37% of lateral linear, and 9.1% of the total sample). This shows that those on the most privileged careers are unlikely to have experienced prolonged periods of non-work. Overall, those who followed the self-employed careers and experienced downward mobility accounted for the smallest proportion of the analytical sample (1.6%). However, as previously mentioned, the size of the sample of graduates on self-employed careers is generally the smallest, as compared to other career types. Therefore, this might reflect the fact

that not many graduates follow self-employed careers, not the fact that these careers are unlikely to be downward.

Table 5.1 Descriptive statistics of career type and social mobility

Source: BCS1970 (analytical sample)

	Fragmented careers		Part-timers		Self-employed		Stable careers	
	% of analytical sample	N	% of analytical sample	N	% of analytical sample	N	% of analytical sample	N
Downward	2.6%	28	3.2%	35	1.6%	17	2.4%	26
Lateral Linear	5.7%	61	6.8%	73	3.2%	34	9.1%	98
Lateral Non-linear	5.9%	64	5.2%	56	1.8%	19	4.2%	45
Upward Linear	9.4%	102	5.1%	55	2.6%	28	9.7%	105
Upward Non-linear	9.5%	103	4.4%	48	2.5%	27	5.2%	56

Table 5.2 Regression results of modelling social mobility as a function of career type

Source: BCS1970 (analytical sample)

		Dependent variables				
		Lateral Linear	Lateral Non-linear	Upward Linear	Upward Non-linear	Downward
Career Typology (ref=Stable Careers)	Fragmented Careers	-0.72*** (0.18)	0.32 (0.21)	-0.16 (0.17)	0.68*** (0.19)	-0.01 (0.28)
	Part-timers	-0.12 (0.18)	0.52** (0.22)	-0.59*** (0.19)	0.07 (0.22)	0.57** (0.27)
	Self-employed	-0.12 (0.23)	0.13 (0.30)	-0.48** (0.25)	0.30 (0.26)	0.61* (0.33)
Constant		-0.86*** (0.12)	-1.85*** (0.16)	-0.76*** (0.12)	-1.59*** (0.15)	-2.46*** (0.20)
Observations		1080	1080	1080	1080	1080
Log Likelihood		-593.942	-489.935	-622.617	-556.111	-342.662
Akaike Information Criterion		1,195.884	987.870	1,253.233	1,120.222	693.323

Note: Coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01

The results from logistic regressions are shown in Table 5.2. Here, the set of dependent variables takes a value of one for given social mobility type, and zero otherwise. For

the career typology, stable careers are used as the reference category, as the intention of this study is to investigate the extent to which the less conventional career differs from the traditional type. In addition, these results are displayed in the form of predicted probabilities in Figure 5.10.

As shown in Figure 5.10, stable careers are the most likely to be lateral linear or upward linear across all social mobility and career types. It can be seen in Table 5.2 and in Figure 5.10 that fragmented careers are 50% less likely to be lateral linear, in comparison to stable careers. This confirms that the most advantageous social mobility trajectories, are linked to stable careers. However, fragmented careers are twice as likely as stable careers to be upward non-linear. This indicates that those graduates who experienced fragmented careers are likely to be upwardly mobile, but they are likely to experience spells of underemployment along their social-class ascent.

As also shown in Table 5.2 and in Figure 5.10, part-timers' careers are 68% more likely than those on stable careers to have lateral non-linear careers and 76% more likely to have downward careers. This implies that working part-time is unlikely to be rewarded with promotions, and likely to be linked to spells of underemployment. Moreover, part-time careers are 56% less likely to be upward linear than stable careers. This further confirms the previous findings, and might indicate that part-timers are unlikely to prioritise promotions in their employment career, over the 'family career', which in turn is penalised by the labour market. This may confirm that those who self-selected to part-time work, choose to accept the downward mobility related to this type of employment (Goldthorpe 2016).

It can also be seen from Table 5.2 and in Figure 5.10 that self-employed careers are 62% less likely than stable careers to be upward linear, and 84% more likely to be downward. This might confirm that the transition to self-employment involves an anxious period in which the organisational support is ought to be replaced by individual's own resources and entrepreneurial abilities (Gold and Fraser 2002). This anxious period might be linked to spells of underemployment, which this group of graduates is willing to experience in return for greater level of independence in the

future. Alternatively, this could be linked to the fact that NS-SEC classification allocates own account workers to intermediate occupations group. However, in this case, the NS-SEC classification has been obtained by translation from SEG, as described in section 4.2.1 and presented in Appendix A. Therefore, only employers of small establishments, own account farmers, and own account non-professionals are allocated to intermediate occupations, while employers of large establishments, and professional self-employed are allocated to higher professional and managerial social class. As a result, this finding is unlikely to be related to measurement issues related to NS-SEC classification.

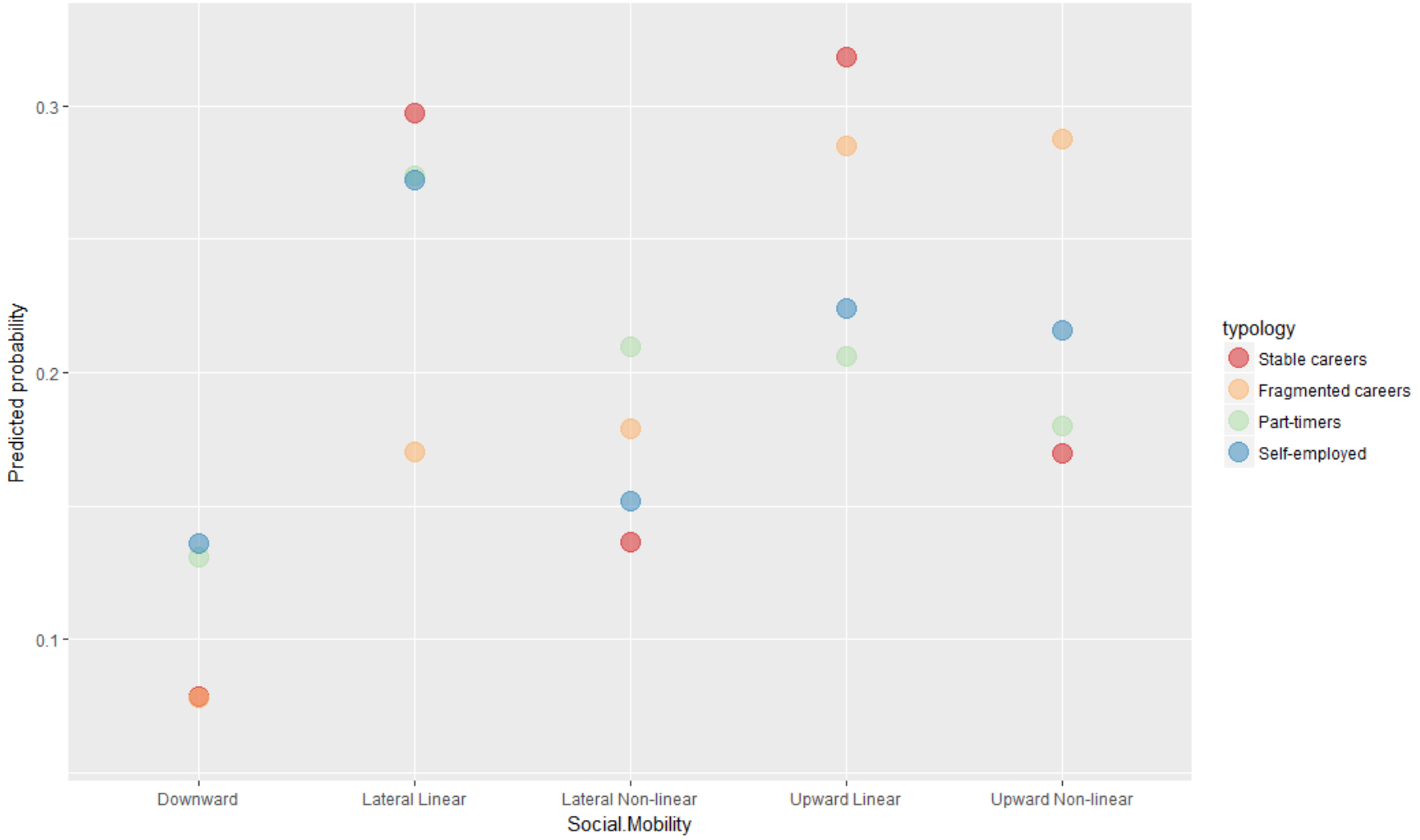

Figure 5.10 Predicted Probabilities based on M0
Source: own compilation of data extracted from British Cohort Study 1970 SN 6943

5.6 Concluding Thoughts

Firstly, contrary to expectation made on the basis of literature discussed in Chapter 2, the ranking of the social mobility trajectories is challenging. Previous social mobility studies often convey that upward mobility is better than no mobility, which in turn is better than downward mobility. However, the findings from the investigation conducted in this chapter are not in line with this assertion. Since not all graduates obtain their first job in the same social class, and not all have equal chances of moving up, staying at the same level, or moving down, their mobility cannot be directly compared. The analysis conducted in this chapter, highlights that lateral linear social mobility trajectories are the most advantaged type. Graduates on these social mobility trajectories spend the longest average amount of time in the managerial and professional occupations and the shortest average time in intermediate and semi routine occupations, which indicates the advantage over other mobility trajectories across the life course. However, since these graduates' first jobs are already related to the highest social classes, upward mobility is not possible, and no mobility is their 'best' option. These no-mobility, lateral trajectories are more advantaged than upward trajectories, as these graduates continuously occupy the top jobs, and did not have to spend any time in lower social class occupation, in order to gain work experience or to demonstrate their commitment.

While lateral linear social mobility can be considered as the most advantaged, the challenge or ranking the other four types remains. For example, it would be intuitive to consider the downward social mobility as the least advantaged type. However, these graduates spent more time in higher professional and managerial occupations than graduates allocated to all other remaining types, except lateral linear. What is more, graduates on downward social mobility trajectories spent on average one and a half year longer in higher managerial and professional jobs, than the graduates on lateral non-linear social mobility trajectories. They also spent on average 3 months less in routine and semi routine occupations than upwardly non-linearly mobile graduates. Therefore, the lateral linear careers are considered as the most privileged in this study, but no rank order is allocated to the remaining social mobility types.

Secondly, as already pointed out in Chapter 2, the majority of social mobility research to date focused on comparing individual's social class, to the social class of their parents. In such studies the focus often is on selecting a social class, which best represents the person's whole working life. Thus, the shorter spells of work, and work in conducted during early stages of one's careers are often neglected. However, as pointed out in section 2.2.2, one's social position is likely to change over the course of their lives, and this study aims at shedding more light on the nature of the processes which lead to eventual assent or descent across social classes, during one's working life.

This investigation confirms that results are dependent on the time point at which social class is measured, as only 24 % of graduates included in my analytical sample have never experienced any changes in social class over time. As can be seen from the figures shown in this chapter, as well as the sensitivity analyses shown in appendix L, one's occupation and the resultant social class can be very different if measured at different time points. For example, being allocated to an upward social mobility trajectories, implies that the work conducted during the early career is related to one of the lower social classes. The spells of this work, however, may be short-lasting, and considered of no consequence for the later life. At the same time, working prior to education could be, for example, related to the need to gather financial resources required in order to take time out of employment for education, or related to the desire to gather better understanding of the labour market, prior to choosing the desired educational route. Thus, despite the sensitivity of allocation to social mobility trajectory type to the work conducted during early career, the whole potential time frame of working life is considered in this study.

Furthermore, the results show that the assumption that all, or even that most, of the graduates have stable careers that lead to upward mobility is an oversimplification of the reality experienced by the graduates in this cohort. Stable careers are followed by only 30% of the total sample and only 32% of those on stable careers have been upwardly linearly mobile. These percentages are much lower than expected, which indicates that stable upwardly mobile graduates should not be taken for granted.

Lastly, the results show that the association between the career type and the social mobility trajectories is statistically significant. However, more in-depth analysis is needed in order to fully understand how these relationships are formed across their life course. Therefore, subsequent empirical chapters investigate how these relationships change, when additional variables are incorporated into the models presented in this chapter. These analyses will shed more light on the processes, which lead to the existence of statistically significant relationships between social mobility trajectories and career types

Chapter 6: Choice or Fate? The Impact of Early Life Characteristics

"Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select - doctor, lawyer, artist, merchant - chief and, yes, even beggar - man and thief, regardless of his talents, penchants, tendencies, abilities, vocations and the race of his ancestors."

Watson, (1924, p. 82).

5.7 Introduction

This chapter aims to answer RQ2, which asks whether the relationships, established in chapter 5, can be explained by the attributes and circumstances observed in the graduates' early life. It builds on the literature discussed in section 2.4. More specifically, it explores the extent to which life course can be seen as a path dependent process, and whether it is dictated to a greater extent by human agency or the structural factors in which it exists. This is achieved by incorporating the early life measurements, the derivation of which has been described in sections 4.2.3 and 4.3.1 into the models M0, which were discussed in previous chapter. The models fitted to the analytical sample in this chapter is defined by equation 2 and 3 in section 3.5.2. This chapter reiterates the background behind these analyses, which is followed by the presentation and discussion of the findings. The final section concludes with the overview of the findings.

5.8 Background

JB Watson, considered the founder of behaviourism (Cohen 1980), suggests in the epigraph to this chapter that an individual's occupation is solely dependent upon the

circumstances of one's upbringing. This quote simultaneously conflicts and concurs the notion of meritocracy. The assurance that characteristics which can be defined at birth, do not lead to later-life occupational outcomes is implicit in the meritocratic societies, as the equality of opportunity regardless of one's background is a prerequisite for social mobility (Francis and Wong 2013). In the case of no meritocracy the traits, which people have limited influence upon, such as gender, the social status of their parents, and the place of birth are the factors allocating people to social positions in later life. In such circumstances social mobility is not possible.

The supporters of meritocracy actively resist this idea, by claiming that one's ability and effort guide their choices, and they collectively reflect one's merit, which allocates the most deserving people to the most powerful positions. For example, Saunders (1997) argues that individual's effort and ability outweigh the social factors in predicting their occupation. In the higher education context, this implies that graduates have the freedom to allocate their knowledge and skills towards the career of their choice, and are matched with employment pathways based on their ability or talent. In true meritocracy other forms of stratification are of negligible importance (Chillas 2010). This perception validates inequalities in the society, and justifies the inequality of outcomes.

The flipside of the meritocratic perception is that, by extension, it attributes one's failures to their lack of merit. The meritocratic perception asserts that the turbulent and unconventional careers may be a consequence of personal failures or the inability to manage the career building process effectively. Placing the emphasis solely on one's ability and effort, neglects the restrictions arising from the lack of opportunities available on the local labour market, financial constraints, and the level of 'concerted cultivation' (Lareau 2006). Therefore, if the instability in one's career truly arises because of such constraints, but is attributed to the lack of merit, meritocratic perception leads to false justification of social injustice.

The above epigraph emphasises that early life is crucial in the occupational development of one's career path. However, it also simultaneously confirms and

contrast the assertion of meritocracy, by stating that neither the race of one's ancestors nor their abilities, talents, and vocations are relevant in fulfilling their occupational quests. Previous studies, discussed in more detail in section 2.4, mirror this duality. While some show that the ability and educational attainment explain the gap in occupational achievements (see for example Sullivan et al. 2018), other studies indicate that social and geographical circumstances create the opportunity structure, which benefits the privileged and constrains the disadvantaged, and point to the presence of the intergenerational transmission of disadvantage. As a results, working class children start the educational race halfway round the track behind the middle class child (Reay 2017).

This begs further questions, in the context of graduates' careers. Are the graduates' careers and their resultant social mobility trajectories constrained by the factors outside of one's control? Are these paths a result of the meritocratic allocation of the most able to 'the best' jobs? Are they dependent on the aspirations and abilities developed during childhood? What is the magnitude of the impact of the advantage experienced in childhood, and the local labour market?

This chapter explores the links between geographical, social, and individual aspects observable in early life and later life career and social mobility trajectories. The aims of the exploratory investigation, conducted in this chapter, are twofold. Firstly, to uncover the magnitude of the impact of the factors observable in early life, which can significantly predict the aspects of the career followed by them in later life. Secondly, to test the extent to which these aspects can explain away the relationship between employment and social mobility trajectories, established in Chapter 5.

The first section of this chapter presents and discusses the results obtained from the analysis described in section 3.5.2, incorporating the variables derived in section 4.2.3 and 4.3.1 into the models M0, which has been discussed in the previous chapter. Firstly, it evaluates the impact of geographical factors, concluding that their impact on the type of career is limited, but they provide an environment in which certain social mobility trajectories are more likely to occur. Secondly, it evaluates the impact of

parental social class, showing that it casts a shadow over the later life outcomes. Thirdly, it evaluates the impact of individual characteristics, pointing to the interplay of gender and the interest in family life as significant predictors of the type of career, but their limited influence upon the social mobility trajectories. The final section concludes.

5.9 Results and Discussion

This section presents the descriptive statistics of the distributions of the variables derived in section 4.2.3 and 4.3.1 as well as the results obtained from the models reflected by equation 2 and 3 in section 3.5.2, including the intermediate stages of the modelling process, described in section 3.7.2. These results are discussed below.

Table 5.3 Descriptive statistics of categorical variables denoting characteristics observed in early life

Source: British Cohort Study 1970 SN 2666, SN 2699, SN 3723, SN 3535, census 1981, census 1991

		Lateral Linear		Lateral Non-linear		Upward Linear		Upward Non-linear		Downward	
		N	%	N	%	N	%	N	%	N	%
if moved in childhood	Moved	49	18	37	20	52	18	50	21	18	17
	Not moved	178	67	112	61	190	66	146	62	71	67
	NA	39	15	35	19	48	17	38	16	17	16
	Total	266	100	184	100	290	100	234	100	106	100
Industry Sector	Primary	87	33	52	28	89	31	73	31	32	30
	Secondary	94	35	65	35	89	31	82	35	41	39
	Tertiary	81	30	66	36	110	38	77	33	32	30
	NA	4	2	1	1	2	1	2	1	1	1
	Total	266	100	184	100	290	100	234	100	106	100
Housing tenure	Being bought across childhood sweeps	167	63	92	50	156	54	129	55	65	61
	Rented in childhood	43	16	35	19	55	19	46	20	15	14
	NA	56	21	57	31	79	27	59	25	26	25
	Total	266	100	184	100	290	100	234	100	106	100
Parental social class	Ns-Sec 1	86	32	40	22	70	24	53	23	33	31
	Ns-Sec 2	78	29	61	33	75	26	61	26	27	25

		Lateral Linear		Lateral Non-linear		Upward Linear		Upward Non-linear		Downward	
		N	%	N	%	N	%	N	%	N	%
	Ns-Sec 3 and 4	42	16	40	22	61	21	57	24	18	17
	Ns-Sec 5-7	36	14	16	9	54	19	41	18	14	13
	NA	24	9	27	15	30	10	22	9	14	13
	Total	266	100	184	100	290	100	234	100	106	100
Gender	Female	160	60	115	63	160	55	128	55	58	55
	Male	106	40	69	38	130	45	106	45	48	45
	Total	266	100	184	100	290	100	234	100	106	100
Importance of working for self	Doesn't matter	124	47	76	41	135	47	94	40	54	51
	Matters	68	26	48	26	68	23	77	33	27	25
	NA	74	28	60	33	87	30	63	27	25	24
	Total	266	100	184	100	290	100	234	100	106	100
Importance of variety in a job	Matters less	133	50	78	42	141	49	105	45	57	54
	Matters very much	60	23	46	25	63	22	66	28	23	22
	NA	73	27	60	33	86	30	63	27	26	25
	Total	266	100	184	100	290	100	234	100	106	100
Importance of security in a job	Matters less	70	26	54	29	98	34	79	34	32	30
	Matters very much	123	46	70	38	107	37	91	39	49	46
	NA	73	27	60	33	85	29	64	27	25	24
	Total	266	100	184	100	290	100	234	100	106	100
Interest in family life	Not interested or sure	28	11	12	7	30	10	25	11	12	11
	Quite interested	83	31	58	32	109	38	86	37	40	38
	Very interested	84	32	53	29	63	22	58	25	28	26
	NA	71	27	61	33	88	30	65	28	26	25
	Total	266	100	184	100	290	100	234	100	106	100

As shown in Table 6.1, the percentage of those who moved across region in the childhood varies between 17% and 21% across the social mobility trajectory types, with the two highest percentages observed for those who had upward non-linear and lateral non-linear social mobility trajectories. For those who did not move the percentages show the opposite pattern, in which the lowest percentages are observed from laterally non-linearly and upwardly non-linearly mobile graduates (61% and 62% respectively), while the highest parentage can be observed for those with lateral linear,

lateral non-linear and downward social mobility trajectories (67%, 66%, and 67% respectively). This might indicate that non-linearity in graduates' employment history is be related to their migration in early life.

The distribution of the analytical sample across the industry sectors shows that primary sectors are most commonly associated with lateral linear social mobility (33%), and least likely to be associated with lateral non-linear social mobility (28%). The secondary industry sectors are most likely to be associated with downward mobility (39%), and least likely to be associated with upward linear social mobility (31%). The tertiary industry sectors are most likely associated with upward linear (38%) and least likely to be associated with lateral linear or downward social mobility (30% in both cases). This most likely reflects the historical times during which these cohort of graduates grew up. The association between the expanding tertiary sector and upward mobility could be created to the increasing number of jobs created in this sector during this period.

With respect to housing tenure, Table 6.1 shows that the parentage range of those who has been owned or bought across all childhood sweeps varies by 13%, between those with lateral non-linear social mobility trajectories (50%) and those with lateral linear (63%). At the same time, the percentage of those who lived in rented accommodation in at least one childhood sweep varies between 14% for those on downward social mobility trajectories and 20% for those on upward non-linear social mobility trajectories. This may confirm that lateral linear social mobility is related to the financial advantage during childhood.

Table 6.1 also shows that parental NS-SEC 1 is related to the most privileged lateral linear social mobility (32%). However, it is also prevalent in downward social mobility graduates group (31%). Children originating from NS-SEC 2 are most prevalent amongst the lateral non-linear social mobility graduates (33%), while children originating from NS-SEC 3 and 4, are most prevalent amongst graduates on upward non-linear trajectories, and those from NS-SEC 5-7 are most prevent on upward linear trajectories (19%). This, similarly as in the case of housing tenure, confirms that the

most privileged lateral linear social mobility trajectories are likely related to inter-generational transmission of advantage.

With respect to gender, Table 6.1 shows that the percentage of females varies between 55% for both of the upward as well as the downward social mobility trajectories and 63% for lateral non-linear social mobility trajectories. The percentage of males varies between 38% for lateral non-linear and 45% for both of the upward as well as the downward social mobility trajectories. This indicates that female social mobility trajectories are likely to be lateral. Given this directionally of social mobility has been least commonly researched, this further highlight the need for more research with respect to social mobility of women.

As also can be seen from Table 6.1, the importance of preferential characteristics varies across the social mobility trajectory types, revealing the aspirational profile of those who experience given social mobility trajectories. The percentage of those from whom working for themselves matters varies between 23% for those on upward linear social mobility trajectories and 33% for those on upward non-linear trajectories, indicating that strive towards independence might be associated with non-linearity.

The importance of variety in a job reveals the highest variability in percentages across all social mobility trajectory types, as it varies by 12 percentage points. The percentage of those for whom it doesn't matter is the highest (54%) for those on downward trajectories, and the lowest (42%) for those on lateral non-linear trajectories. However, it matters the most for those on upward non-linear trajectories (28%) and the least for those on upward linear trajectories (22%). This implied that aspiration for variety can also be associated with non-linearity, while the lack of it can be associated with downward social mobility trajectories.

Job security is the most important for those on lateral linear as well as downward social mobility trajectories, as matters very much for 46% of graduates on the given trajectory. Graduates who expressed that it matters less for them mostly experienced upward social mobility trajectories, both linear and non-linear - 34% in both cases.

This implies that more risk-taking attitudes may be associated with upward social mobility trajectories.

As also shown in Table 6.1, the percentage of those who are very interested in family life is the highest on lateral linear trajectories (32%), and lowest on upward linear trajectories (22%). The range of percentages is the lowest across all career types for those who are either not interested or not sure if family life is important for them, as it varies only by 5 percentage points. It is the highest for those who had upward non-linear or downward social mobility trajectories (11%) and the lowest for those on lateral non-linear social mobility trajectories (7%).

Table 5.4 Descriptive statistics of continuous variables denoting characteristics observed in early life

Source: British Cohort Study 1970 SN 2666, SN 2699, SN 3723, SN 3535, census 1981, census 1991

		Lateral Linear	Lateral Non-linear	Upward Linear	Upward Non-linear	Downward
Unemployment rate	N	262	183	288	232	105
	Mean	8.71	8.57	8.69	9.1	9.25
	Standard Deviation	2.85	2.95	2.87	2.8	2.74
Ratio of professional workers	N	262	183	288	232	105
	Mean	8.65	8.78	8.67	8.42	8.41
	Standard Deviation	1.17	1.27	1.24	1.08	1.03
Part-time employment rate	N	262	183	288	232	105
	Mean	16.41	16.36	16.41	16.34	16.4
	Standard Deviation	1.54	1.5	1.8	1.66	1.55
Ability (Maths)	N	204	142	218	183	76
	Mean	54.32	55.15	54.17	53.51	55.91
	Standard Deviation	9.37	8.81	9.34	10.79	8.32
Ability (Vocabulary)	N	170	104	174	144	68
	Mean	52.22	51.32	49.49	49.68	51.41
	Standard Deviation	8.58	11.16	10.8	11.76	8.11

Table 6.2 shows the descriptive statistics for the characteristics measured on the continuous scale, which include some of the geographical aspects as well as those designed to proxy ability. As can be seen in Table 6.2, graduates who had lateral non-

linear social mobility trajectories resided at age 16 in the areas where mean unemployment rate is the lowest (8.57), and where the mean ratio of professional workers is the highest (8.78). However, for graduates on downward trajectories the pattern is opposite - the mean unemployment rate was the highest (9.25) and the ratio of professional workers was the lowers (8.41). This points to the importance of geographical characteristics, especially local level of unemployment and availability of professional jobs, is shaping graduates' social mobility.

In terms of ability Table 6.2 shows that graduates with the highest mean maths score (55.91) had downward social mobility, while graduates with the lowest mean maths score (53.51) has upward non-linear social mobility. Their literacy score, measured by the vocabulary test, shows that those with the average highest score (52.22) had lateral linear social mobility, and those with the lowest average score (49.49) had upward linear social mobility. However, the range of the average mean score across all social mobility types is relatively low, which could be indicative of low variability of ability levels amongst graduates.

Table 5.5 Summary of results from modelling career type as a function of early life characteristics Source: British Cohort Study 1970 (analytical sample)

Explanatory variables		Stable careers	Part-timers	Self-employed	Fragmented careers
Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	-0.58*** (0.20)	-0.11 (0.24)	0.33 (0.29)	0.44** (0.20)
	Ns-Sec 3 and 4	-0.57** (0.23)	-0.02 (0.28)	0.72** (0.31)	0.13 (0.24)
Gender (ref: Female)	Male	1.21*** (0.16)	-2.67*** (0.28)	0.54 ** (0.23)	0.11 (0.16)
Importance of family life (ref: very interested)	Quite interested	0.55** (0.23)	-0.82*** (0.23)	0.41* (0.30)	0.44** (0.20)
	Not interested or sure	0.28 (0.28)	-1.27*** (0.34)	-0.48 (0.27)	0.36 (0.26)
Ability (Maths)	Friendly Maths Test	0.02** (0.01)	-0.00 (0.01)	-0.00 (0.02)	-0.01 (0.01)
Constant		-2.24 (1.63)	2.66 (1.85)	-5.92*** (2.27)	-1.13 (1.54)

Note: Table shows variables which exhibit statistical significance in at least one of the full models only; full tables can be viewed in appendix H; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01

Table 5.6 Summary of results from modelling social mobility type as a function of early life characteristics

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables		Lateral linear	Lateral non- linear	Upward linear	Upward non-linear	Downward
Career Typology (ref=Stable Careers)	Fragmented Careers	-0.73*** (0.21)	0.24 (0.26)	-0.25 (0.19)	0.74*** (0.22)	0.22 (0.30)
	Part-timers	-0.22 (0.22)	0.39 (0.27)	-0.65*** (0.23)	0.17 (0.26)	0.97*** (0.33)
	Self-employed	-0.15 (0.25)	0.045 (0.34)	-0.53** (0.26)	0.31 (0.28)	0.86** (0.35)
Ratio of professional workers	%	0.14 (0.09)	0.19* (0.10)	0.04 (0.08)	-0.27*** (0.09)	-0.18 (0.13)
Industry Sector (ref: Tertiary)	Primary	0.50** (0.23)	0.15 (0.27)	-0.27 (0.22)	-0.29 (0.23)	-0.11 (0.32)
	Secondary	0.53** (0.23)	0.35 (0.26)	-0.37* (0.21)	-0.37 (0.23)	-0.041 (0.30)
Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	-0.22 (0.20)	0.41* (0.23)	0.05 (0.20)	0.08 (0.22)	-0.36 (0.28)
	Ns-Sec 3 and 4	-0.60** (0.25)	0.36 (0.28)	0.17 (0.22)	0.37 (0.24)	-0.36 (0.31)
Ability (Vocabulary)	Raw Vocabulary Test score	0.02* (0.01)	0.00 (0.02)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)
Constant		-2.04 (1.66)	-5.12** (2.03)	-1.21 (1.59)	2.03 (1.73)	-1.19 (2.32)

Note: Table shows variables which exhibit statistical significance in at least one of the full models only; full tables can be viewed in appendix H; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01

5.9.1 Geographical Factors

This section discuses statistically significant results with respect to the geographical factors shown in Table 6.3 and 6.4, in the context of literature discussed in section 2.4. Tables 6.3 and 6.4 only shows the level of the variables which exhibit a level of statistical significance in at least one of the full models. The full modelling summary can be viewed in Appendix H.

The importance of geography has recently been confirmed in the report produced by the Social Mobility Social Mobility Commission (2017a), which states that the chances of being successful are linked to the place of residence, especially for those from disadvantaged backgrounds. It also highlights that London accounts for nearly two-thirds of all social mobility hotspots, while in some cold-spot areas, participation in higher education falls to just 10 per cent. This report, however, does not account for the internal migration, which is especially prevalent amongst graduates (Faggian, Rajbhandari, and Dotzel 2017a). Therefore, the place of residence is expected to be less of a decisive factor in the graduate context.

This study provides some empirical evidence that the place of residence at the start of the career is a significant predictor of the career in later life. As shown in Table 6.4, in particular the predominant industry as compared to the national average, and the rate of professional workers in the region, significantly explain some aspects of career and social mobility. The unemployment rate also exhibits statistical significance, however these results are only shown in Appendix H, as the significant effect of local unemployment rate disappears when additional variables are included in the model. Given that when accounting for a more comprehensive set of explanatory variables the importance of some aspects of the place of residence at age 16 disappears, this shows that the magnitude of the impact of place is limited in the graduates' context. However, it nevertheless allows for more comprehensive modelling strategy in subsequent chapters.

6.3.1.1 Unemployment rate

The results suggest that the local levels of unemployment are unlikely to affect the type of graduates' career. However, the study provides very weak evidence that the higher unemployment in the local area is related to greater likelihood of the social mobility trajectories being upward non-linear, as well as downward. This is shown in Appendix H as well as in the predicted probabilities plot shown in Figure 6.1. Since these coefficients are only significant on the 90 % level and only when other aspects of early life are not accounted for, these relationships should be interpreted with caution.

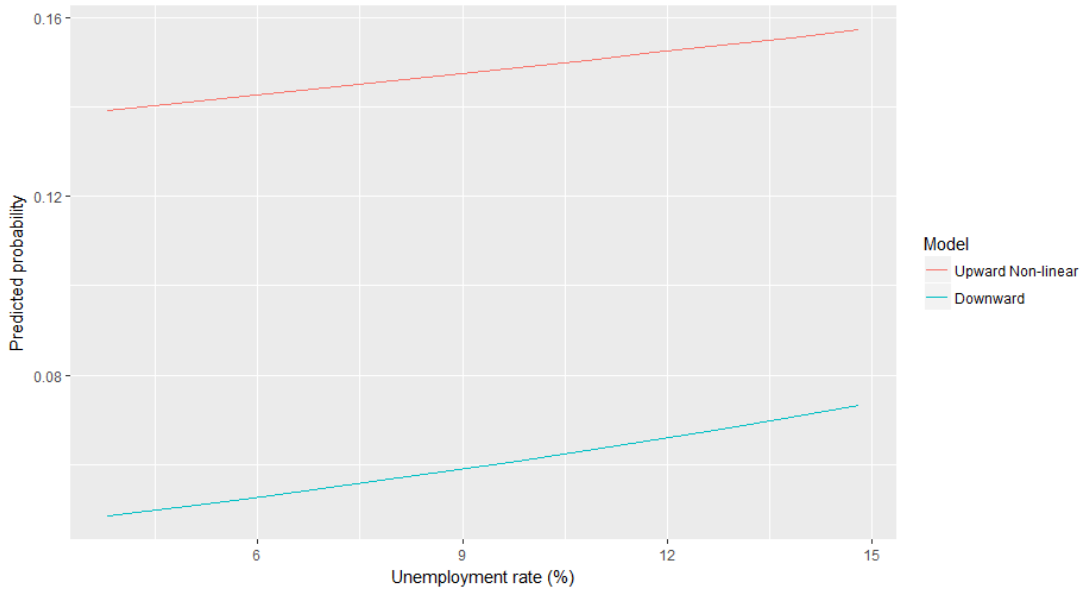

Figure 5.11 Predicted probability of social mobility by local unemployment rate

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

In both, the upward non-linear and the downward social mobility trajectories, routine and semi routine occupations are more common in later life, than in other social mobility types. This can be seen in Figure 5.4 and 5.5, in the previous chapter. This might indicate that in regions where unemployment is relatively high, graduates are more likely to be underemployed - undertake employment related to lower social classes than their education level would imply. Therefore, as discussed in section 2.2.1, underemployment rather than unemployment presents a more direct threat for

graduates. Conversely, this might be related to high internal migration rates of graduates. As graduates are likely to move to areas where the employment prospects are greater, the unemployment level at age 16 would not play a decisive role in their social mobility trajectories. Chapter 7 investigates this aspect in more detail.

6.3.1.2 Knowledge based economy

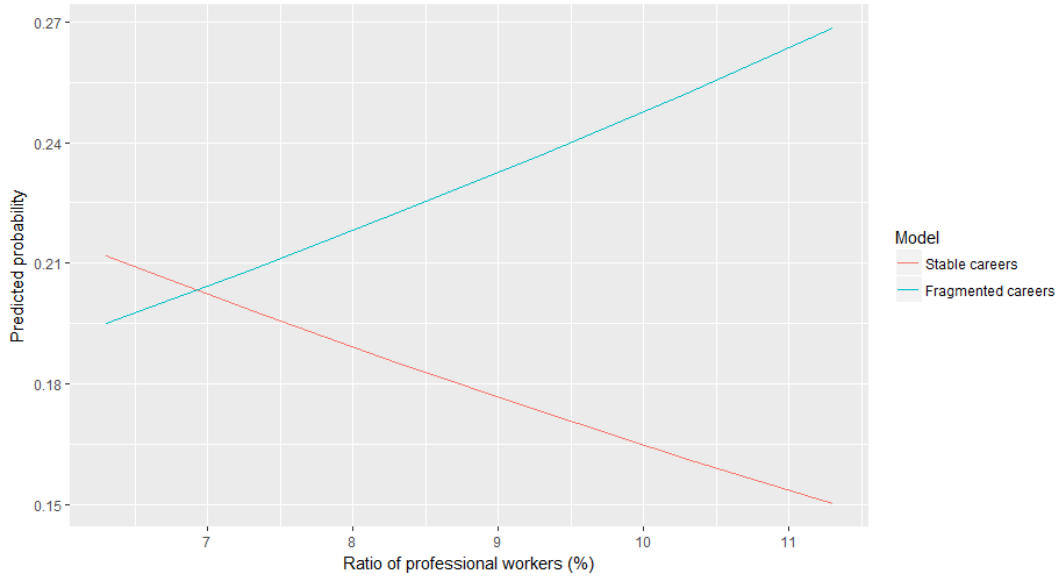

Figure 5.12 Predicted probability of career type by local rate of professional workers

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

Knowledge based economy, as defined in section 4.3.1.2, reflects the proportion of professional workers in the county. Professional jobs are those which require high level of knowledge and experience, most of which also require a degree (ONS 2010). Thus, this environment is expected to provide greater opportunities for the graduates to succeed.

The ratio of professional workers to all those who are economically active is the most significant among the geographical predictors on later life outcomes, as shown in Table 6.4 as well as Appendix H. What is more, as shown in Appendix K, ratio of professional workers is one of only two geographical covariates, which exhibits statistical significance for females on upward non-linear social mobility trajectories,

but not for males. The results show that the impact of the knowledge-based economy on the career types are weak and only significant when other early life aspects are not accounted for. Nevertheless, as shown in Figure 6.2, the results indicate that stable career are less likely in the regions with a higher ratio of professional workers, while fragmented careers are more likely in these regions. This implies that the knowledge-based economies place greater emphasis on continual re-training, creativity and flexibility, rather than loyalty and commitment. As shown in Figure 5.6 and 5.9, in fragmented careers similarly to stable careers full-time paid employment is a dominant state. However, these careers are much less structured, conventional, as discussed before. Moreover, they are also less gendered as later discussed in section 6.3.3.

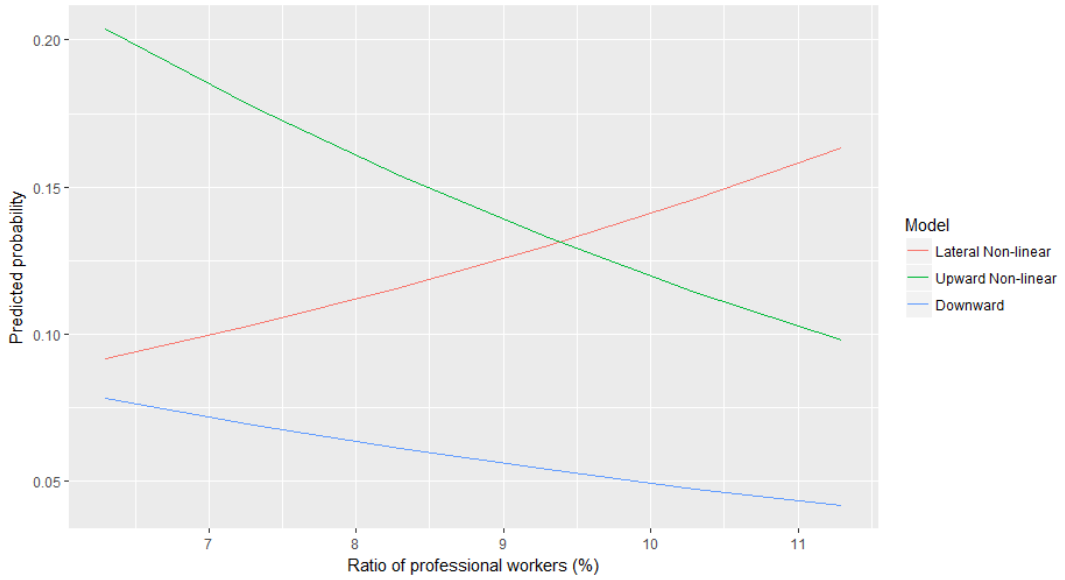

Figure 5.13 Predicted probability of social mobility by local rate of professional workers

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

Knowledge-based economies also promote lateral non-linear social mobility, as shown in Table 6.4 and Figure 6.3. These indicate that the workforce in knowledge-intensive areas is likely to enter the labour market via jobs which are related to relatively high social position. As their career develops, they stay in jobs related to similar level of social class, or experience temporary spells of jobs on higher or lower level. As shown in Figure 5.2 graduates who experienced these types of social mobility trajectories

were unlikely to work in routine and semi-routine occupations, which could be related to the unavailability of these types of jobs in the regions they reside.

At the same time, in the areas with high ratios of professional workers upward non-linear and downward career are less likely. In both of these social mobility types, routine and semi routine occupations are more prominent in later life. This implies that, while unemployment rates are associated with the work in lower social class occupation in later life, the regions where ratio of professional workers is higher prevent graduates from working in such occupations. Furthermore, the negative effect of the ratio of professional workers is statistically significant for females on upward non-linear social mobility trajectories, but not for males. This implies that regions with high ratios of professional workers can better facilitate the upward non-linear progression of males, simultaneously providing a greater barrier for the upward non-linear progression of females.

These results cumulatively indicate that knowledge-based economies offer a more even playing field. In knowledge-based economies, the relationship between career type and social mobility is obscured by the lack of continuity in full-time paid employment as well as lack of distinct downward or upward moves. Nevertheless, these economies seem to offer more professional opportunities, especially for those who enter higher level occupations early. These local labour markets offer what can be perceived as a 'glass tunnel', where the glass ceiling restriction, resulting from the categorical measurement of the social class, makes upward mobility for those who entered in the highest occupations impossible. At the same time, the 'glass floor' (Milburn et al. 2015, Friedman and Macmillan 2017) prevents these graduates from moving below the level of intermediate occupations. Graduates enter this tunnel, usually in early twenties, via professional or managerial jobs. Once entered, this tunnel does not offer them job security, in the traditional sense of the 'job for life', as their career are likely to be fragmented. However, the job security is likely to operate on different principles, as the previous experience of work in professional and managerial occupations shields them from downward mobility.

6.3.1.3 Industry Sector

The statistical significance of industry sectors for explaining the career type disappears when other variables are incorporated into the model, as shown in Appendix H. As also shown in Figure 6.4, the probably of following stable career is similar in all industry sectors, but stable careers are slightly more common in primary than in tertiary industry sectors. At the same time, part-time careers are more common in tertiary than in primary sectors. This indicates that as the economy moves towards the tertiary services, stable careers may become obsolete, and the prevalence of part-time careers may increase. The primary industries include agriculture, forestry, fishing and mining, while the tertiary industries include catering, distribution, transport, banking and other services. One explanation of this is related to the less conventional working patterns offered by the service industries, in comparison to the primary industries. While seasonality and solar cycles are the forces guiding the primary industries, the working patterns in tertiary industries are guided by the convenience, opportunities to make profit, and increasingly technology. For example, in the catering industries, the busiest times are lunchtimes, evenings and weekends, which are typically related to breaks from work. Similarly, in the financial markets the possibility of making the highest profits is directed by the stock exchange trading hours, which vary across time zones.

As shown in Table 6.4 as well as Figure 6.5, the evidence also suggests tertiary sector is more likely to reinforce the non-linear social mobility trajectories. The results show that the lateral linear careers are more likely in regions where primary and secondary - energy, manufacturing, and construction – sectors are dominant, than in regions where tertiary sectors are common. Furthermore, as shown in Appendix K, separate analysis by gender reveals that the effect of regions where primary and secondary industry sectors, as opposed to tertiary second, are more prevent on enhancing the likelihood of experiencing lateral linear social mobility trajectory is statistically significant only for female graduates, but not for males. Primary and secondary sectors are more generally less volatile, and therefore likely to offer 'jobs for life', while in the service sectors the supply of jobs is more likely to be dictated by the demand for

given services. As a result, in regions where the tertiary industries are dominant, graduates are less likely to experience lateral linear social mobility. Thus, their trajectories are more likely to be non-linear, temporary, and precarious. These effects are particularly noticeable for women.

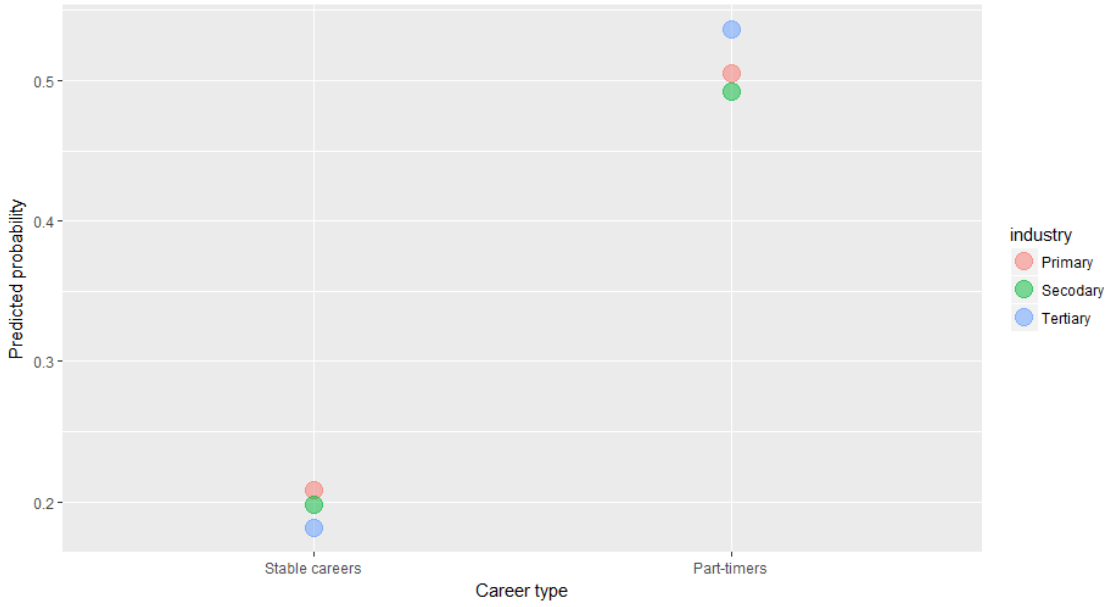

Figure 5.14 Predicted probability of career type by industry sector

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

In contrast, part-time work is traditionally more widespread in the service sectors (Del Boca 2002), and the results show that the tertiary industries are more likely than primary industries to offer part-time careers, as shown in Figure 6.4. This suggests alternative explanation, which is related to the increased female participation and changes in the household composition. The household duties division in the traditional male-breadwinner-female-homemaker household setup appears to have been more straightforward. The male 'breadwinner' was expected to work full-time, while the stay-at-home 'housewife' was allocating her time to the domestic responsibilities (Sørensen 2005). More recently, the life course of males and females increasingly resembles one another over time (Brückner and Mayer 2005). As the distribution of both the working and the household duties became more even across the typical household members, the part-time career became more prevalent. This may indicate

that the tertiary industries support such division of responsibilities to greater extent than predominantly primary sector regions do.

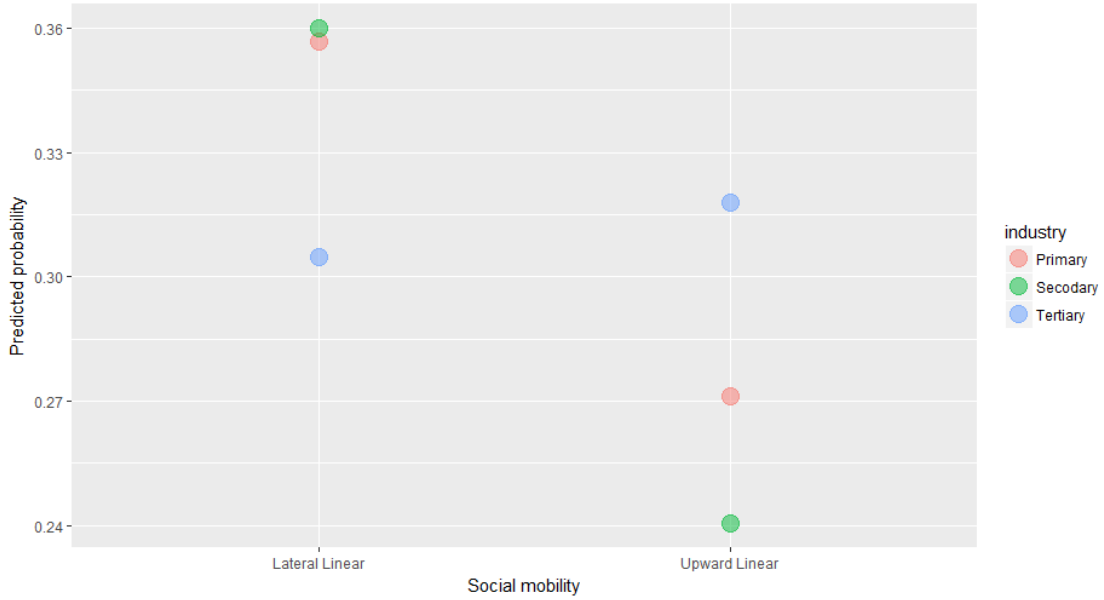

Figure 5.15 Predicted probability of social mobility by industry sector

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

These two explanations reinforce one another. The less conventional operating hours of the service sector, allowed for more flexible household and work arrangements, which leads to the increased female participation in employment. In turn, the increased female participation required the labour market to provide more flexible working arrangements (Lewis and Campbell 2007). This reciprocal reinforcement is likely to support part-time careers, and unlikely to offer many stable career opportunities.

This investigation also offers weak evidence that upward social mobility trajectories may become obsolete, in the graduate context, as the economy moves toward tertiary industries. The results in Table 6.4 show that upward social mobility careers are less likely in secondary, than in tertiary industry regions. This can be explained by the fact that the generation X has been living in the historical times, which seen a decrease of secondary sector occupations and an increasing prevalence of tertiary sector jobs. With increasing 'room at the top' (Goldthorpe 2013) in the regions where the tertiary sector

was growing, upward careers were more likely. In contrast, secondary sectors often exhibit hierarchical structures, with fewer people in the supervisory roles, and the majority of workers at the operational level. They offer comparatively less high-rank jobs.

Overall, the move toward the tertiary, service sectors is likely to continue in the UK. The results indicate that in the tertiary industries, the prevalence of stable employment decreases, while the prevalence of part-time working increases. Such growth is unlikely to facilitate lateral linear social mobility, but more likely to enable upward linear mobility. This, however, is largely dependent on the rate of growth of the tertiary sector.

5.9.2 Parental Social Class

Social stratification literature indicates that parental social class is an important factor influencing employment outcomes, as discussed in section 2.4.2 (see for example Breen 2003, Breen and Goldthorpe 2001). This study provides relatively strong evidence in support of inter-generational transmission of advantage, as the parental social class is one of the most significant predictors out of those included in this study, of both career type and social mobility trajectories, as shown in Tables 6.3 and 6.4.

As shown in Figure 6.6, in comparison to those originating from NS-SEC 1 backgrounds, those from NS-SEC 2, 3 and 4 backgrounds are much less likely to follow stable careers. At the same time, there is no significant difference in terms of likelihood of following stable career between those from the lowest and the highest end of the social class spectrum.

While the nature of the career of those from the highest and the lowest end of the parental social class spectrum does not differ significantly, there are significant differences in terms of their social mobility trajectories. This result points to the internal polarisation of graduates on the stable career, and implies that the stable careers are likely to operate on different principles in these two social background groups. Those from the routine and semi routine backgrounds, as well as those from

intermediate background were less likely to experience the most privileged lateral linear careers, as shown in Figure 6.7. Furthermore, as shown in Appendix K, these effects are particularly noticeable for females. Separate analyses by gender shown that even females from lower managerial and professional social class background are less likely to experience lateral linear social mobility. While overall analyses do not reveal any association between routine and semi-routine background, later non-linear social mobility trajectories that separate analyses by gender show that there is a negative and statistically significant association for males originating from this background. Instead, overall, those from routine and semi-routine backgrounds were more likely to experience upward linear social mobility trajectories, and men were also more likely to experience upward non-linear social mobility trajectories. At the same time, graduates originating from the highest social classes were more likely to enter their careers already via 'top jobs'. Their commitment to full-time employment allowed them to remain above the glass floor, in occupations related to the highest social classes.

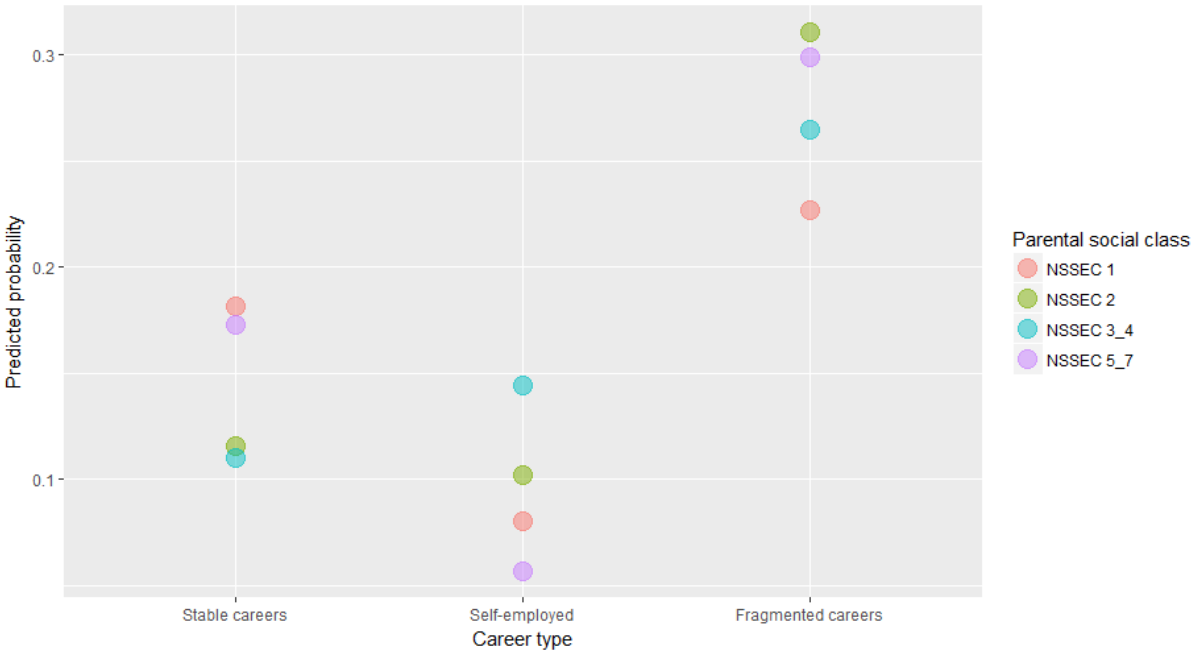

Figure 5.16 Predicted probability of carer type by parental social class

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

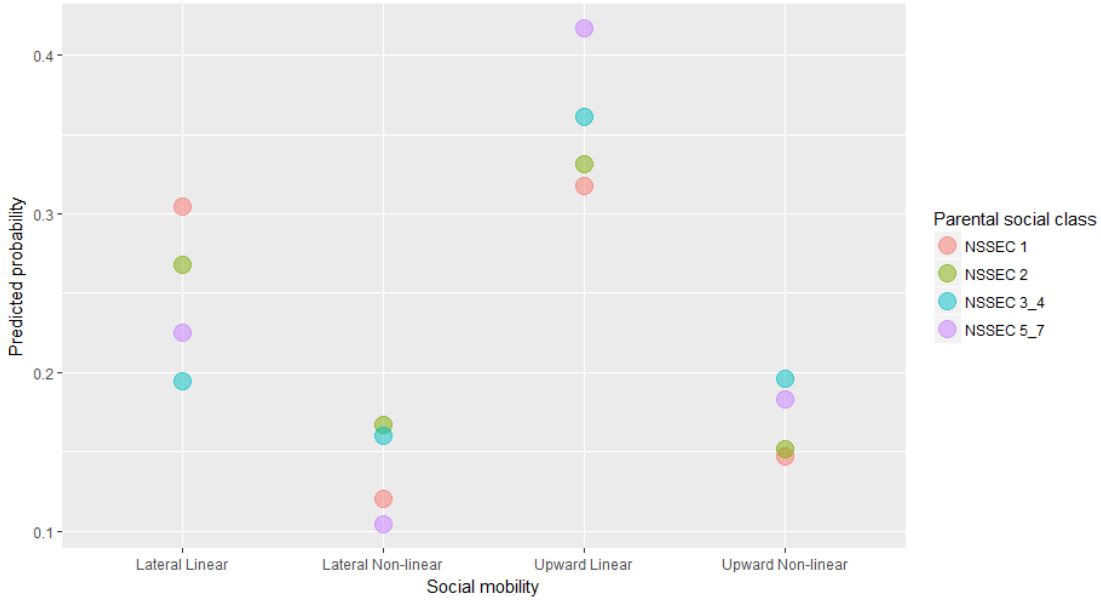

Figure 5.17 Predicted probability of social mobility by parental social class

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

While this investigation reveals that the mechanisms are likely to operate differently in different genders, this evidence is in line with the glass floor theory (Milburn et al. 2015, Reeves and Howard 2013). When the investigation is expanded by the influence of the social classes of origin, the results indicate that those who benefited from the privilege in their childhood are more likely to remain above the glass floor, by having the lateral linear social mobility. The childhood privilege enables them to secure stable employment in high-level jobs relatively early in life, and protects them from downward movement. In comparison the stable career of those from the least advantaged backgrounds are unlikely to follow the same patterns. They are more likely to work in jobs from the lower end of the spectrum during their early life. Only having gained some experience in these jobs first, and potentially having signalled their commitment or ability, they ascend the social class rungs across their life course.

Furthermore, as shown in Table 6.3, the significant association of the intermediate parental social class, which includes own account workers, with the self-employed careers evidences social reproduction. These results are in line with the inter-generational transmission of the entrepreneurship (see for example Greene, Han, and

Marlow 2013, Laspita et al. 2012). However, the careers of those originating from intermediate backgrounds, in comparison to those originating from the highest social classes, are less likely to be lateral linear, especially for females, and more likely to be upward non-linear. This result also confirms that the place above the glass floor is reserved to those from the most privileged backgrounds, and only after they secure these privileged positions, graduates originating from the intermediate occupation can climb their way up. This indicates that the MMI (Raftery and Hout 1993) may be projected beyond the educational stages of life course.

As shown in Table 6.3 the career of those from lower managerial and professional occupations, in comparison to those form the higher ones, are more likely to be fragmented, and therefore have lower degree of continuity in their employment. These two social background groups are equally likely to experience the most privileged lateral linear social mobility. However, separate analyses by gender reveals that females originating from lower managerial and professional social class, are less likely to experience these social mobility trajectories. Instead, those originating from lower managerial and professional backgrounds, especially females, are slightly more likely to experience lateral non-linear social mobility. This indicates that, both of these groups of graduates are likely to take place within the 'glass tunnel'. However, those from the lower managerial and professional background are more likely to experience periods of instability during their careers in order to maintain their position above the glass floor.

All in all, these results shed light on complicated trajectories of social mobility in the graduate labour market, and reveal the complexity of the mechanisms by which the social advantage is reproduced. The existing studies often considered upward mobility as signalling success. While upward mobility is indeed a better indication of success than downward mobility, its superiority over the lateral social mobility is less straightforward. Upward social mobility is superior to lateral social mobility, only if the starting point is the same in both cases. In this scenario, those moving up can be seen as more successful than those who stay behind. However, if the starting point is not the same, but related to the differences in the social background of graduates, the

superiority between the two directions of trajectories can only be understood in relation to the rate of ascent of the upwardly mobile person, and the entry level of the laterally mobile one. In this case, the lateral careers of those who enter high and remain at this position are more successful than of those who climb the rungs. By the time their social classes are comparable, the former person would have acquired substantial amount of experience in the professional occupation, gaining comparative advantage over someone who only just managed to climb to the top.

These results indicate that upward intra-generational mobility is, to an extent, reserved for those from lower social backgrounds. While these graduates were climbing up the social class rungs, those from backgrounds that were more privileged were already gaining experience in the managerial and professional jobs, which protected them from moving below certain level in later life. Only if there was sufficient 'room at the top', the up-climbers were welcomed. This confirms that a level of 'opportunity heading' (Milburn et al. 2015) is present in the graduate labour market.

5.9.3 Individual Factors

Table 6.3 shows that individual factors, especially gender and the importance placed on family life, have significant impact on the type of graduates' career. However, there is limited evidence to conclude that these characteristics affect their social mobility trajectories, beyond the relationship established in Chapter 5. Furthermore, the direction of the two factors, which have the most significant impact upon the career trajectory, is similar. The only statistically significant individual predictor of social mobility, out of those included in this study, is literacy, which further confirms the importance of structural factors.

6.3.3.1 Gender and the Importance of Family Life

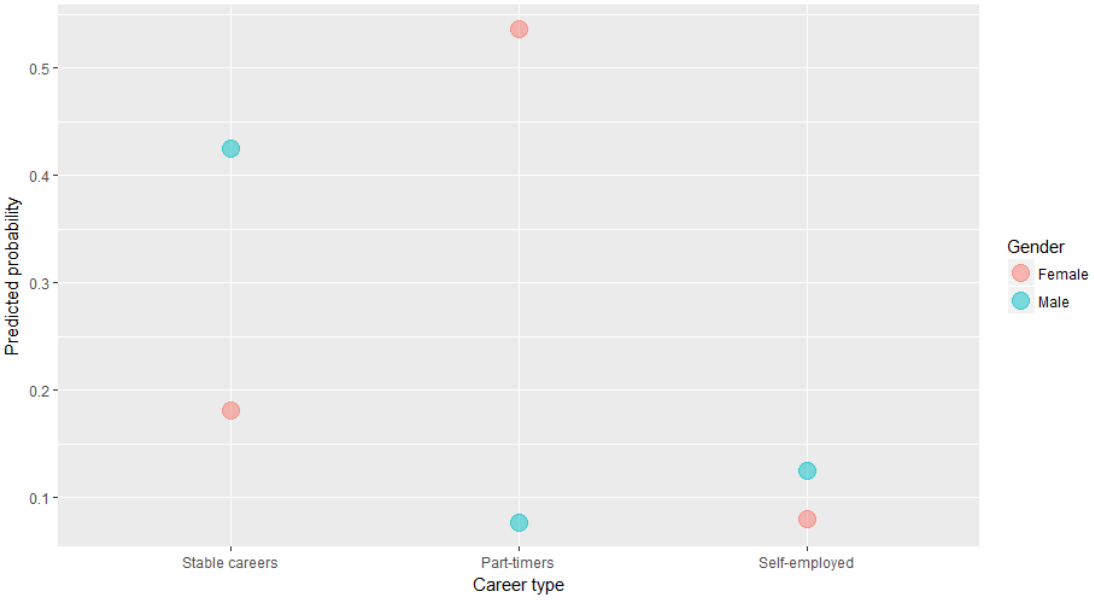

Figure 5.18 Predicted probability of career type by gender

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

Gender and the importance placed of family life are likely to correlate. As guided by the stereotypical gender role, females are expected to be more interested in the family life than males (Jones, Howe, and Rua 2000). The fundamental difference between these two factors is that the biological gender, defined prior to one's birth and outside of one's control, while the attitude towards family life can be cultivated by the circumstances of one's upbringing. Therefore, the former is more likely to reflect socially imposed constraints, while the latter is more likely to proxy aspirations.

As shown in Table 6.3, the results from the analysis conducted in this study reveal that gender, as well as importance placed on family life both exhibit a level of statistical significance in explaining the career type. However, as shown in Appendix H, these do not translate onto the statistical significance in explaining the social mobility trajectory type. Separate analysis by gender with respect to the importance placed on family life, reveals that females that are quite interested if family life, as opposed to those who are very interested in family life, are less likely to experience lateral linear social mobility trajectories.

As shown in Figure 6.8 as well as 6.9, stable and self-employed careers are more likely amongst males, and those who were not very interested in family life at age 16. Between these two, stable careers appear to be more male-dominated, as expected, and the interest in family life of the to-be graduates on these careers is lower. In the case of self-employed careers, the significance of the interest in family life disappears after controlling for other factors, while gender remains significant in the full model.

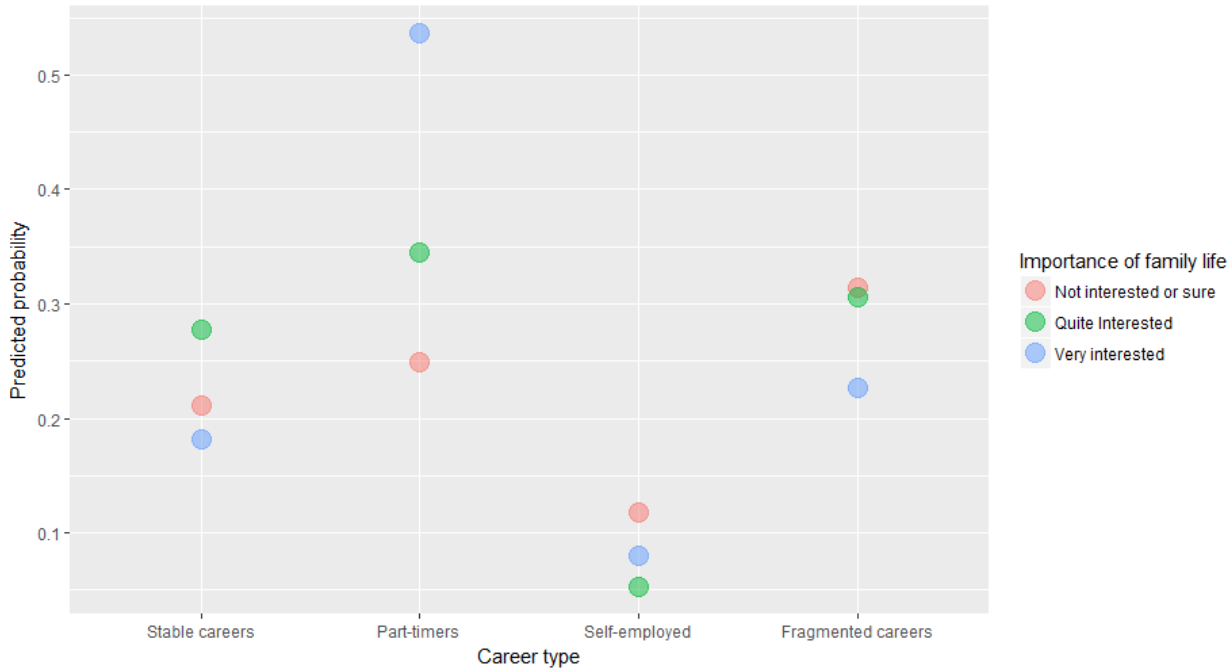

Figure 5.19 Predicted probability of career type by importance placed on family life
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

The results with respect to the part-time careers show the opposite pattern, they are more common amongst females and those who were very interested in family life. These two career types appear to be reflecting stereotypical gender roles, as gender and interest in family life are the only two significant individual predictors in the model M1. Furthermore, amongst all variables included in this study to investigate the strength of the relationship between aspirations and later life careers, part-time careers are the only type in which can be significantly predicted based on the early life interest.

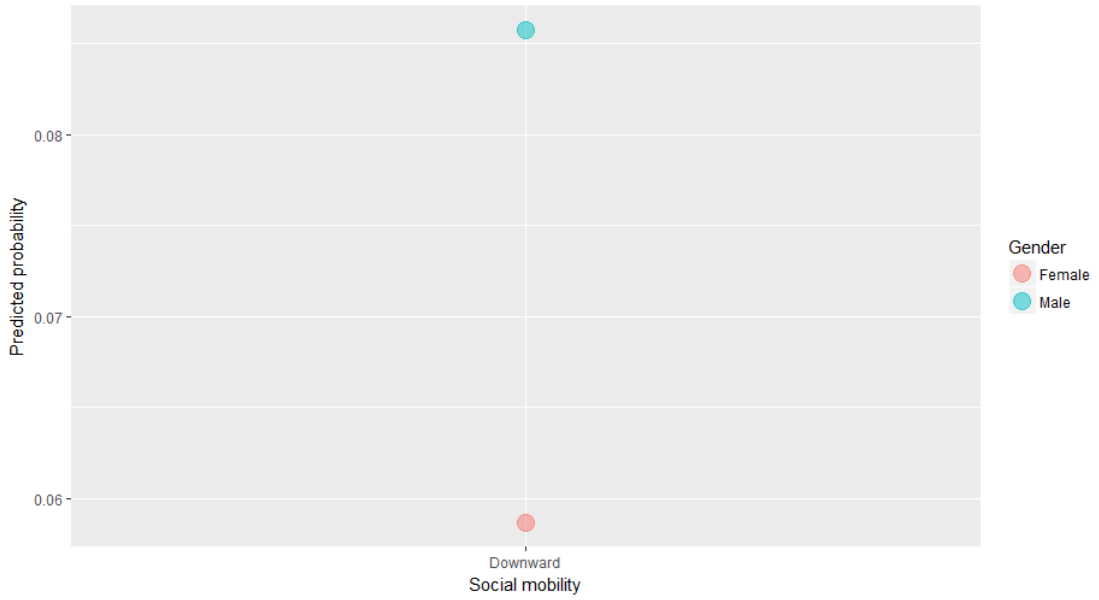

Figure 5.20 Predicted probability of social mobility by gender
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

These results point to a novel finding with respect to the fragmented careers. As shown in Figure 6.9, while those who are not interested in family life are more likely to follow these careers, this career type is not significantly explained by gender. This might indicate that, amongst those young people who pursue higher education, those who are less concerned about the family spheres of their lives might prefer fragmented careers. Such careers, at least in the graduate context, might assist the individualistic exploration of the available options, in which the employment stability is replaced with embracement of uncertainty. These careers might reflect those individuals who "are enjoined to think of themselves as actively shaping their life course through acts of choice" (Rose 2009 p. 26).

While the careers of males and female vary in terms of their nature, there is little evidence to conclude these traits have a direct impact on their social mobility, beyond the impact manifested by their career type. There is weak evidence to suggest that males are more likely to experience downward careers, as shown in Figure 6.10, which disappears when accounting for other early life factors. This finding contradicts previous evidence of gender effects on career success (Mayrhofer et al. 2008).

6.3.3.2 Job security

There is weak statistical evidence to conclude that the importance place on security has a significant impact on the probability of having upward linear social mobility trajectory, as shown in Appendix H, and Figure 6.11. This effect is weak in terms of the statistical strength and somewhat counterintuitive. It implies that those who said at age 16 that security in a job matters to them very much, are less likely to have upward linear social mobility trajectories, which might indicate that upward linear mobility is associated with less risk-averse attitudes.

Figure 5.21 Predicted probability of social mobility by importance placed on job security
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

6.3.3.3 Ability

There is also some weak evidence with respect to meritocratic selection, as shown in Appendix H. The higher maths score has a significant impact on only one type of career type - the stable careers. As shown in Table 6.3 and Figure 6.12, the higher the maths score, the more likely the graduates are to have stable careers, indicating that there is an advantage related to numeracy.

Moreover, the higher vocabulary score has a significant impact on only one type of social mobility types. Graduates with higher vocabulary score are more likely to have lateral linear careers. However, these results are likely to be related to their field of study, as later discussed in Chapter 8.

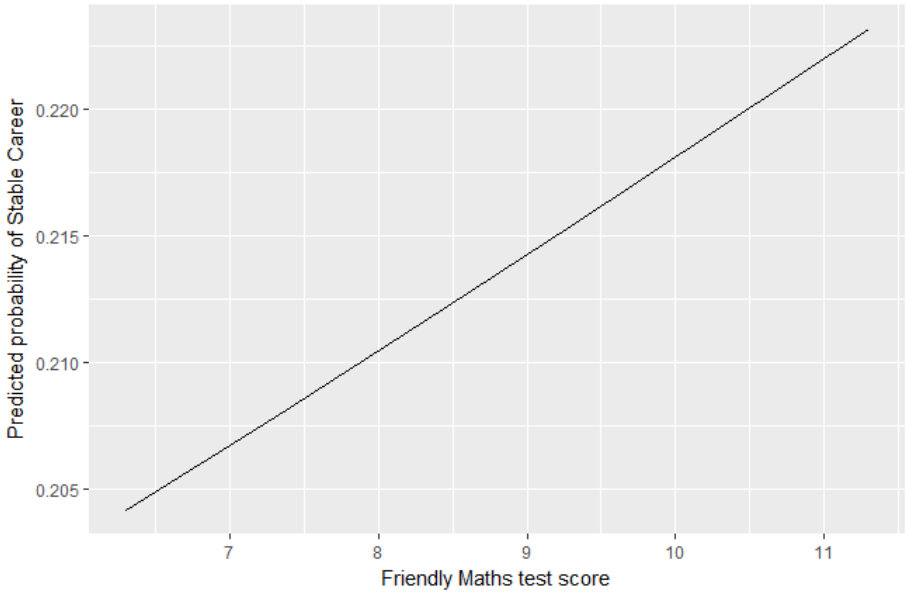

Figure 5.22 Predicted probability of career type by ability (maths)
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

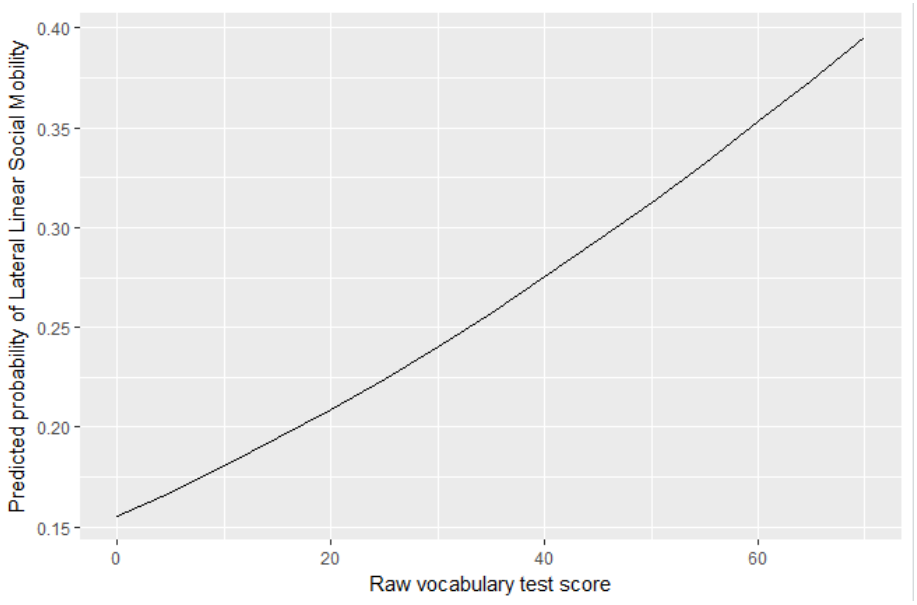

Figure 5.23 Predicted probability of social mobility by ability (vocabulary)
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

5.10 Concluding thoughts

This chapter contributes to the understanding of the socio-demographic composition of the graduates on different career types. However, it does not fully explain the relationship between career type and social mobility trajectories established in Chapter 5. Instead, incorporating measurements observed in early life reinforces some of these relationships. It shows that, although the aspects of early life, evaluated in this study, contribute to explaining the social mobility trajectories, the career type remains the most crucial predictor of social mobility. Therefore, more nuanced investigation is needed. However, this investigation allows to account for the set of informed control variables observed in early life. Therefore, the following Chapters 7 and 8 expand upon these conclusions, by accounting for the role of parallel dimensions of graduates' life course, namely higher education and internal migration, in explaining their social mobility trajectories.

Some substantive conclusions can also be reached on the basis of this investigation. Firstly, the investigation conducted in this chapter contributes to the understanding of the extent to which graduate careers are based on the meritocratic principles. Expanding the model evaluated in the previous chapter by the variables observed in early life sheds more light on the socio-demographic characteristics of graduates on certain career types, and the mechanisms by which these careers support given social mobility trajectories. Most importantly, the differences can be seen between the graduates whose career takes place within the 'glass tunnel' and those who are outside of it. Those whose career develops within the 'glass tunnel' enter the labour market via high-level jobs, and remain in these jobs for throughout their life course. They are more likely to originate from privileged backgrounds and to have started their careers in areas where the ratio of professional jobs is higher. In contrast, graduates whose careers develop outside this 'glass tunnel' are more likely to originate from lower social classes. They ought to climb the career rungs, by continual manifestation of their commitment, which helps them to reach the 'top jobs' in later life.

Nevertheless, under the assumption of meritocracy, ability would be the only aspect of early life, which has an impact of later life career and social mobility. These results show that ability measured in early life does not to appear to play highly significant role in either predicting the career type or the social mobility trajectory amongst this sample of graduates. This indicates that there is limited evidence to support the claim that the UK is 'the Great Meritocracy' (May 2016).

Secondly, the evidence indicates that individual factors are more likely to place people in certain career types, while the geographical factors are more likely to predict their social mobility trajectories. This can be seen by comparison of the coefficients in Table 6.3 to those from Table 6.4, as well as those in Appendix H. These results show that parental social class, gender, and the importance placed on family life developed during childhood exhibit some statistical significance in explaining the career type followed in later life. However, these characteristics have little influence upon their social mobility trajectories, as the importance of gender and aspirations does not appear to play a significant role in the second set of regressions, shown in Table 6.4. At the same time, the geographical factors, especially the ratio of professional workers in the given area, largely dictate the direction of social mobility trajectories.

Lastly, the characteristics observed in early life add little explanation to the relationship between the career type and the social mobility trajectories, which remains statistically significant, even after accounting for a large set of explanatory variables observed in early life. Therefore, more in-depth analysis is needed in order to fully understand how these relationships are formed across the life course. Although the investigation conducted in this chapters does not fully explain the relationship established in previous chapter, it aids subsequent analysis by allowing for inclusion of a set of informed control variables. Thus, the subsequent investigation builds upon the investigation conducted in this chapter, by incorporating the characteristics of higher education and migration into the models presented above. This will shed more light on the processes leading to the relationships between social mobility trajectories and the career type.

Chapter 6 Onwards and Upwards? The Role of Internal Migration

"Smoke lingers 'round your fingers;
train Heave on to Euston
Do you think you've made the right decision this time?
You left your tired family grieving
and you think they're sad because you're leaving,
but did you see jealousy in the eyes
of the ones who had to stay behind?
And do you think you've made the right decision this time?
You left your girlfriend on the platform
with this really ragged notion that you'll return,
but she knows that when he goes he really goes
And do you think you've made the right decision this time?"
"London" the Smiths

6.1 Introduction

This chapter aims to answer RQ3, which asks what is the role of internal migration in the context of different career types for social mobility. It builds on the literature discussed in section 2.5.1. More specifically, it tests the extent to which Escalator Region Theory (Fielding 1992) applies within the British graduates context. This is achieved by incorporating a typology of migration trajectories, described in more detail later in this chapter, into the models M1, which were discussed in previous chapter. The models fitted to the analytical sample in this chapter is defined by equation 4 and 5 in section 3.5.2. This chapter reiterates the background behind these analyses, which is followed by the presentation and discussion of the findings. The final section concludes with the overview of the findings.

In order to achieve this aim, this chapter recognised the complex nature of migration by developing and incorporating an indicator reflecting the type of migration, alongside its interaction with the career type, into the models discussed in chapter 6. Thereby, limitations of ERT are addressed in three ways. Firstly, the derivation of a migration typology is based on the individual migration histories, which are traced longitudinally across the student and post-student phase of the life course, as suggested by Sage, Evandrou, and Falkingham (2013a). This typology is based on the extent to which graduate's migration trajectory adheres to the ERT, showing that a substantial group of graduates in the analytical sample do not act as expected under this theory. Secondly, this investigation expands the ERT, by incorporating a number of types of migrants developed by Findlay et al. (2015) into empirical analysis, providing more understanding of the graduate migration to and out of the escalator regions, in line with the suggestion of Smith, Finney, and Walford (2016). Lastly, it evaluates the role these types of migration play in the context of the career types introduced in Chapter 5, highlighting that the same type of migration may not lead to the same social mobility outcomes in the context of different career types. These findings point to strategies, which can better deliver social mobility for graduates with different types of career.

6.2 Background

Ensuring equality of opportunity for people from diverse background is a major concern in the political debates, and the impact of geographical location and migration lie at the core of understanding of the spatial-social mobility nexus (McCollum et al. 2018). This importance can be demonstrated by the initiative of the UK government, which in October 2016 and January 2017 directed funding to twelve 'opportunity areas' across England so as to 'remove obstacles to social mobility'. This allocation of funding was based on the 'Social Mobility Index' (SMI) developed by the Social Mobility Commission earlier in 2016, which compared the chances of children from disadvantaged backgrounds, and identified social mobility cold and hot spots. This index highlighted that young people from disadvantaged backgrounds who live in London are more likely to achieve good outcomes, while industrial towns and other major cities are providing them with limited opportunities.

The analysis conducted in Chapter 6 confirms the importance of 'area effects' on graduates' social mobility. In particular, the local ratio of professional workers in the area of residence at age 16 has been shown to have a degree of significant impact on three out of five social mobility trajectory types. The to-be graduates residing at age 16 in areas where the ratio of professional workers is high are more likely to experience lateral non-linear social mobility and less likely to experience upward non-linear or downward social mobility trajectories. This has been discussed in more detail in section 6.3.1.

Nevertheless, neither the SMI index nor the analysis conducted in Chapter 6 take into account the possibility of graduate migration, implicitly assuming that graduates do not move across regions, and therefore treating them as if they were rooted in place. At the same time, the facilitating capability of migration has been established in previous studies, as discussed in section 2.5.1. Previous studies show that that graduates are especially highly mobile (Abreu, Faggian, and McCann 2015, Faggian and McCann 2009b, Faggian, McCann, and Sheppard 2007) and student and graduate migration is the dominant process by which they select themselves into higher quality education or better jobs (Smith and Sage 2014). Thus, it can be expected that the to-be graduates and graduates would not stay in the areas offering them limited opportunities, and would move to regions, which are likely to facilitate their social mobility.

6.3 Migration Typology

This section provides a rationale behind the allocation of individual residence trajectories into a migration type. It also shows the percentage of the total sample allocated to each of the types, as well as descriptive statistics of each of the types. These are based on the index plots shown in Figure 7.1, the state distribution plots shown in Figure 7.2, the modal state sequences shown in Figure 7.3, and the state frequency plots shown in Figure 7.4. The interpretation of these plots is the same as detailed in section 5.3. The descriptive frequencies of each of the type of migrants

against the type of career as well as the type of social mobility are shown in Table 7.1 and 7.2.

6.3.1 Stayers in Non-escalators

The classification of migration trajectories of graduates included in the analytical sample is based on the degree to which these graduates adhere to the ERT theory, and uses the terminology developed by Findlay et al. (2015) to label the types of migrants. It is relatively straightforward to identify the stayers, as they do not move between escalator and non-escalator regions. ERT theory considers two types of stayers: stayers in escalators and stayers in non-escalators. Stayers in non-escalators account for 41.67% (N=450) of the analytical sample, while stayers in escalators represent 14.34% (N=155) of the sample.

As shown in Table 7.1, the largest percentage of stayers in non-escalators (N=148, 33%) has stable careers. This is closely followed by the percentage of graduates with fragmented careers (N=131, 29%), while the lowest percentage (N=52, 12%) are the self-employed.

As shown in Table 7.2, lateral linear social mobility is the most common for stayers in non-escalators (N=116, 26%). The least common social mobility trajectory type is downward (N=46, 10%). Since these percentages are close to overall average percentages across all career types, and since the sample allocated into this type is the largest of all types of migration, this category is considered as the reference for statistical inference.

6.3.2 Stayers in Escalators and Lasting Movers to Escalators

The classification of movers' trajectories is more multifaceted, mainly because the information about their residence has been collected at multiple time points. The lasting movers to escalators are considered as those who adhere to the first stage of ERT, by moving to escalators, as well as the second stage, by staying there until age 42 – the end of the observation window. By the time they are age 38, all of them live

in escalators. As this type of movers, together with the stayers in escalators, are considered by the ERT to have escalated social mobility trajectories (Fielding 1992), these two groups were aggregated together and cumulatively reflect 27.22% of the analytical sample. As shown by the modal states in Figure 7.3, this group tends to move from elsewhere to the second order escalators between age 16 and 26 and remains there until age 42. However, this modal sequence reflects less than 12% of the sample classified into this type of migrants which points to their internal heterogeneity, which can also be observed in Figure 7.1. Furthermore, the model state sequence is the second most frequently occurring, and the most frequently occurring sequences amongst these migrants, are those who stay in the second order escalators throughout the observation window.

As shown in Table 7.1, the largest percentage of graduates in this type (N=104, 35%) has fragmented careers. This indicates that migration is related to fragmentation of the career. As shown in Table 7.2, similarly to stayers in non-escalators, downward social mobility is the least common amongst these migrants (N=22, 7%). This percentage is both lower than the proportion of downwardly mobility graduates in the overall sample and in the sample of stayers in non-escalators. Upward linear social mobility is the most common for this type of migrants (N=84, 29%), which is marginally higher that the equivalent percentage in the overall sample, as well as the percentage in the stayers in non-escalators type.

6.3.3 Temporary Movers to Escalators

While the above described graduates act accordingly to the ERT theory, the remaining 31.11% do not. In particular, temporary migration to escalators and out of escalators during early career represent noticeably large part of the sample. Temporary movers adhere only to the first stage of ERT, as they move to escalators during their early career. However, they move out of these areas before the end of the observation window, not adhering to the second stage. Thus, graduates who did not reside in escalator region at age 16, and at age 42, which represent the first and the last observation timepoint, but continuously reside in escalators for a period of time,

between these two timepoints are included in this group. Since the percentage of graduates in this type is relatively high, this findings is consistent with Champion (2012), while it puts into questions the assumption of ERT regarding the stepping off stage.

This type of movers reflects 11.76% of the analytical sample. As shown in Figure 7.2, around 70% of them lived in escalators at age 30, at this is the only time point at which the modal state is the first order escalator, as shown in Figure 7.3. Figure 7.2 also shows that only around 40% of them lived in escalators at age 26 and 34 and, by the time they were 38, only around 10% of them lived in escalators. The modal sequence reflects 13% of the graduates classified into this type, pointing to their internal heterogeneity, reflected by Figure 7.1. The modal graduates resided in London at age 30 and elsewhere otherwise, as shown in Figure 7.3. As shown in Figure 7.4, the modal sequence is the third most frequently occurring sequence in the temporary migration type. The most frequently occurring sequence consists of those who were at the age 30 in second order escalators, and elsewhere at all other time points. The second most frequent sequence are those graduates, who at age 26 and age 30 were in London, and elsewhere at all other time points.

As shown in Table 7.1, part-time careers are most common amongst these graduates (N=43, 34%), and their proportion is higher than in any other type of migrants. The least common career type for temporary migrants is self-employed career (N=23, 18%).

As shown in Table 7.2, lateral linear social mobility is most common for temporary movers (N=43, 34%), and only 14 of them (11%) experienced downward social mobility. This indicates that temporary migration is not related to downward moves for those who entered labour market via high level jobs, and might indicate that the stepping off stage occurs much earlier than expected.

6.3.4 Complex Movers

The remaining 19.35% of the analytical sample reflects those who do not act according to any of the stages of the ERT, recognised here as complex movers. They either move out of escalators during the early stages of the career, or their migration trajectory show a level of complexity not expected under ERT. This can be seen in Figure 7.1. As shown in Figure 7.2, at age 16 over 80% of them resides in escalators. This proportion gradually deceases over time, reaching around 40% at the last three timepoints analysed. The modal state, shown in Figure 7.3 reflects those movers, who were in second order escalators at age 16 and age 26, but elsewhere for the remainder of the time, and represents less than 7% of graduates, which indicates that the internal heterogeneity is the highest in this type of migrants. This can also be seen in Figure 7.4, as the 10 most frequent sequences reflect just over a half of the total sample classified into this type. Figure 7.4 shows that the modal sequence is the fourth most frequent. The most frequent sequences reflect those who move out of the escalators to the non-escalator regions. Due to the small sample size of this group, which limits the usability of this typology in further inferential investigation, no further distinctions between movers were made, and all graduates classified into this type and considered as complex, in accordance with the terminology suggested by (Findlay et al. 2015).

As shown in Table 7.1, fragmented careers are most common amongst complex movers (N=88, 42%). As this percentage is higher than for any other type of migrants, this further confirms that migration is related to fragmentation of a career. Self-employed careers are least common (N=17, 8%). As shown in Table 7.2, only 39 complex movers (19%) experience the most privileged - lateral linear social mobility. This percentage is the lowest across all migration types, and 6% lower than the overall average. Complex movers are slightly overrepresented in the upward non-linear social mobility group (N=59, 28%).

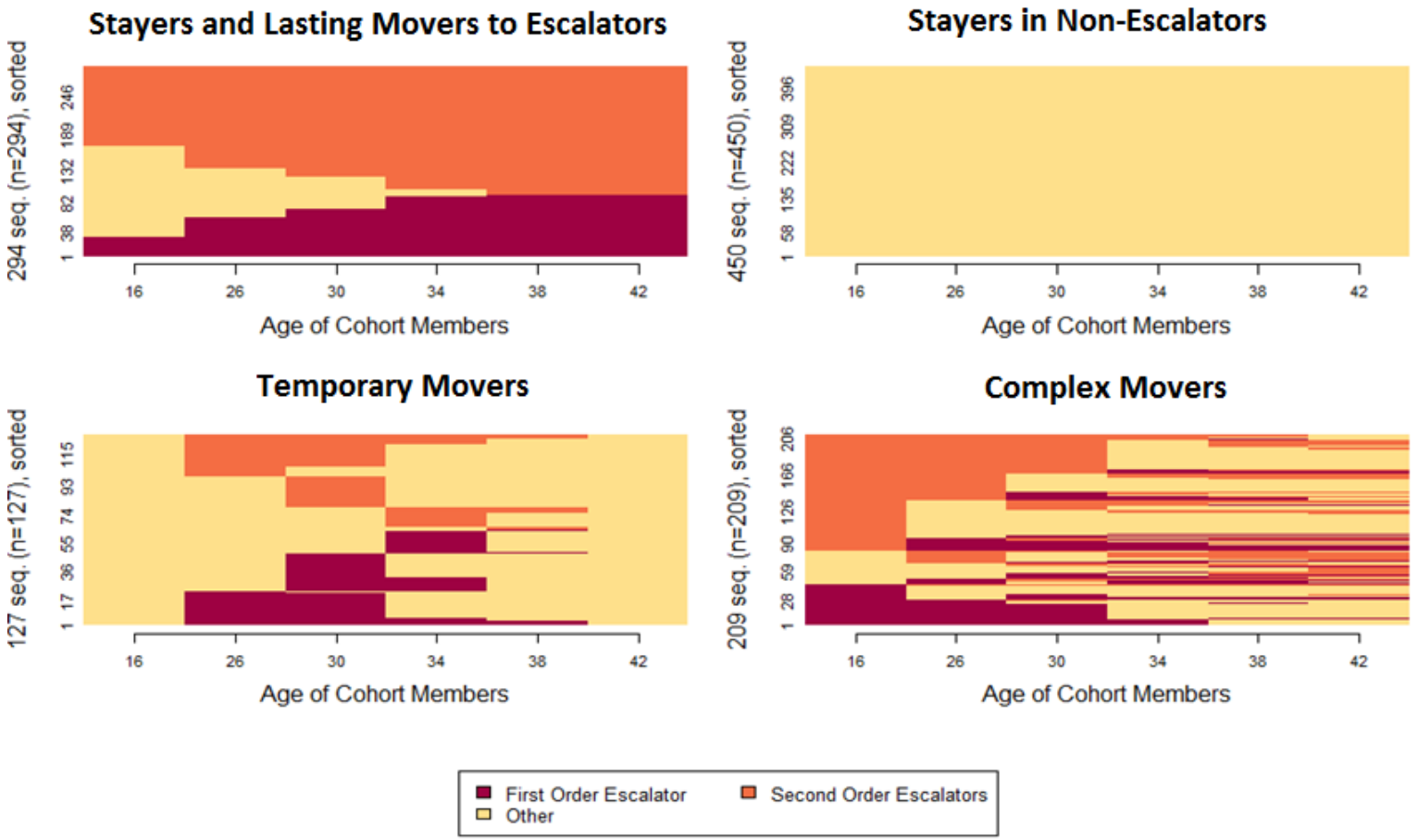

Figure 6.1 Migration typology index plots
Source: own compilation of data extracted from British Cohort Study 1970 SN 5537

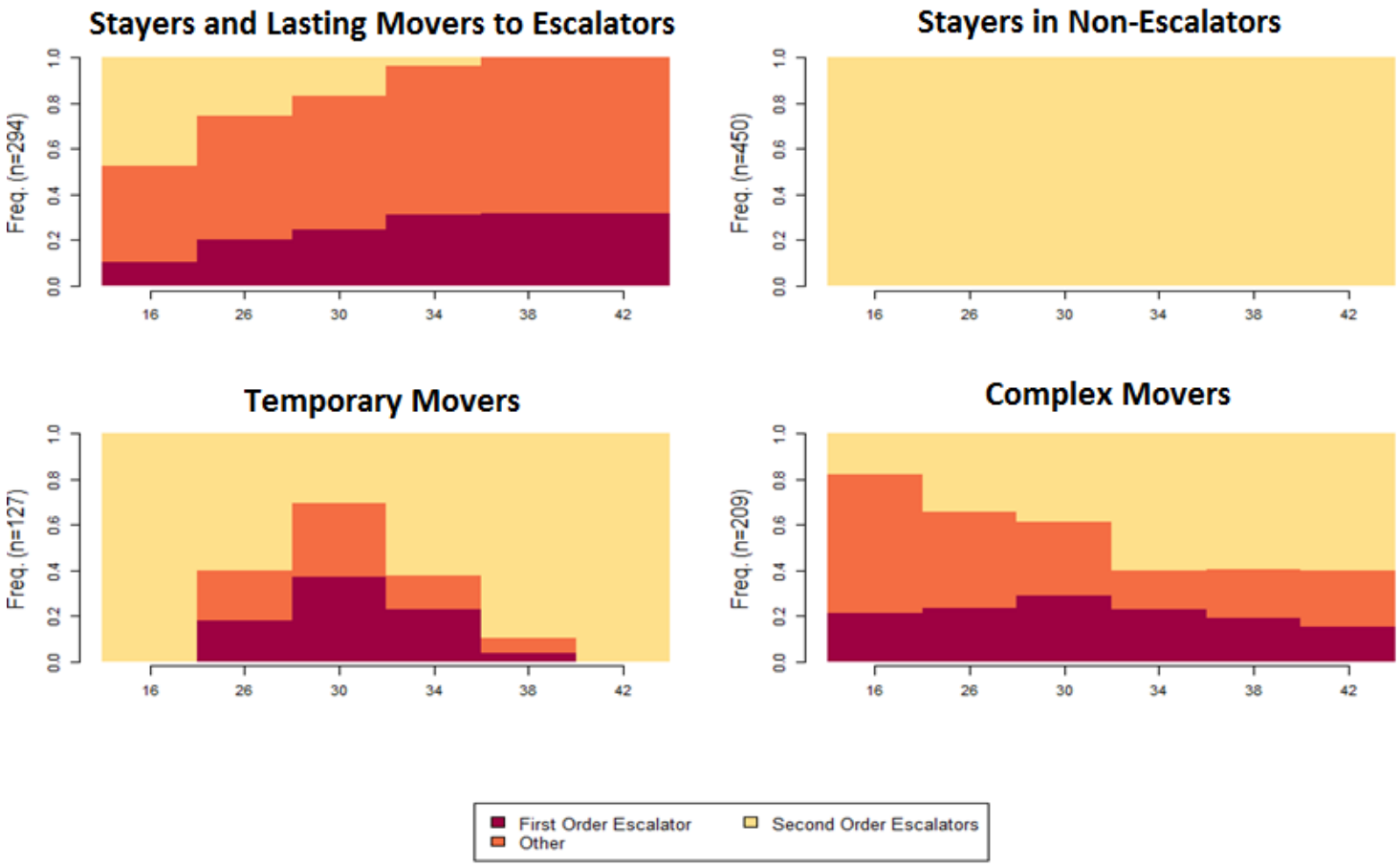

Figure 6.2 Migration typology state distribution plots
Source: own compilation of data extracted from British Cohort Study 1970 SN 5537

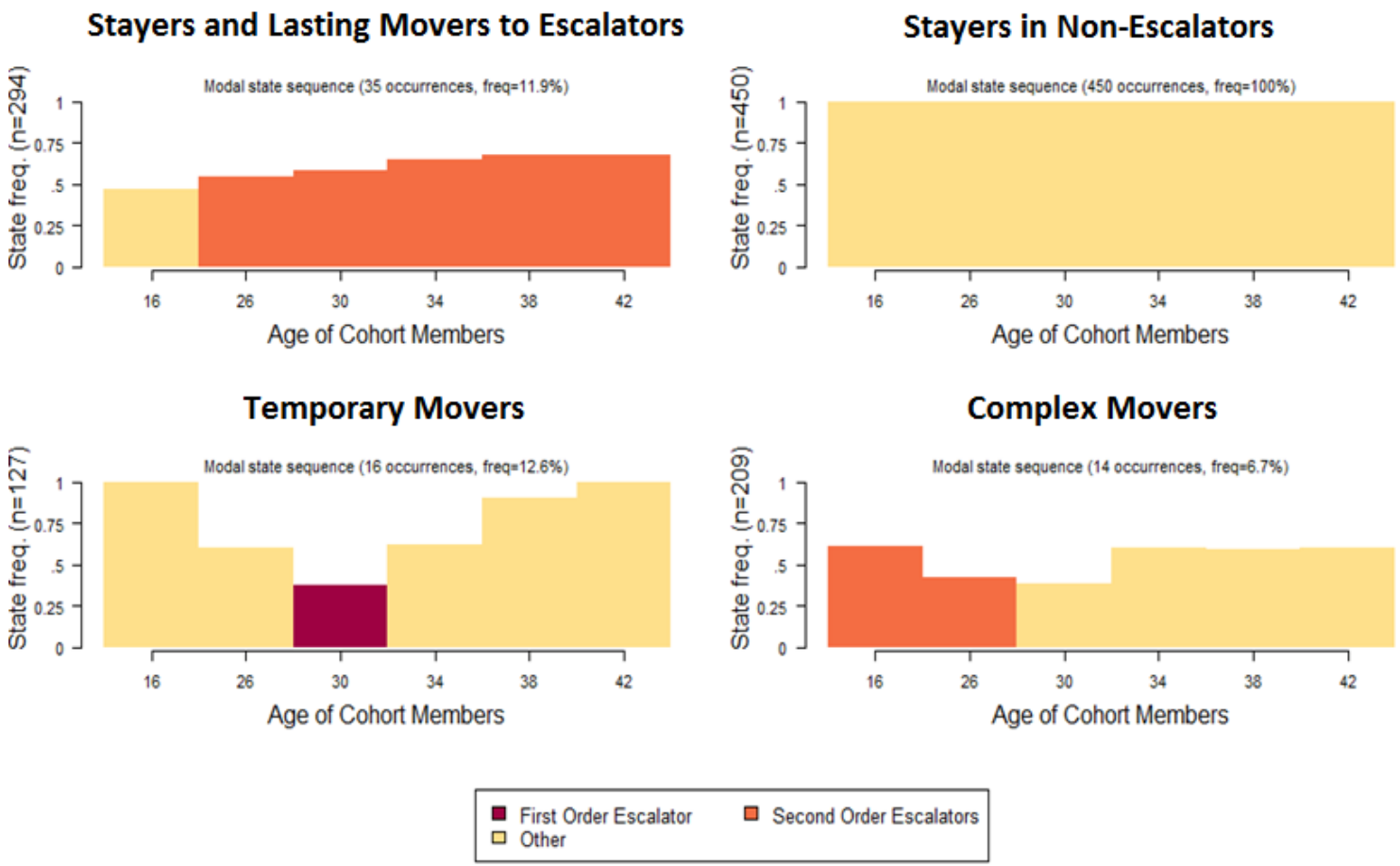

Figure 6.3 Migration typology modal state sequence
Source: own compilation of data extracted from British Cohort Study 1970 SN 5537

Figure 6.4 Migration typology state frequency plots
Source: own compilation of data extracted from British Cohort Study 1970 SN 5537

Table 6.1 Descriptive statistics of the variable denoting migration typology
Source: British Cohort Study 1970 (analytical sample)

Migration typology	Fragmented careers		Part-timers		Self-employed		Stable careers	
	N	%	N	%	N	%	N	%
Complex Movers	88	25	46	17	17	14	58	18
Stayers in Non-Escalators	131	37	119	45	52	42	148	45
Stayers in and Lasting Movers to Escalators	104	29	59	22	33	26	98	30
Temporary Movers	35	10	43	16	23	18	26	8
Total	358	100	267	100	125	100	330	100

Table 6.2 Descriptive statistics of the variable denoting migration typology
Source: British Cohort Study 1970 (analytical sample)

Migration typology	Lateral Linear		Lateral Non-linear		Upward Linear		Upward Non-linear		Downward	
	N	%	N	%	N	%	N	%	N	%
Complex Movers	39	15	36	20	59	20	51	22	24	23
Stayers in Non-Escalators	116	44	77	42	122	42	89	38	46	43
Stayers in and Lasting Movers to Escalators	68	26	50	27	84	29	70	30	22	21
Temporary Movers	43	16	21	11	25	9	24	10	14	13
Total	266	100	184	100	290	100	234	100	106	100

6.4 Results and Discussion of the Role of Migration in a Career Type

This section presents inferential statics of modelling the career type and social mobility as a function of the early life characteristics, which exhibit some degree of significance in the analysis conducted in previous chapter, labelled as M1 throughout this thesis, with the addition of the migration and subsequently migration-career typology interaction term in each of the models. The summary of the results with respect to the career type are shown in Table 7.3, and the results with respect to social mobility types are shown in Tables 7.4 to 7.8. These tables only show the levels of the variables which exhibit a level of statistical significance in at least one of the full models. The full modelling summary can be viewed in Appendix I. In addition, in order to facilitate the interpretation, predicted probabilities of following a given career path, for each type of migrants are shown in Figure 7.5, and Figures 7.6 to 7.9. These probabilities are computed on the basis of M1, as compared to the predicted probabilities obtained in

M2 for each type of migrant on a given career trajectory. These results as discussed below.

Migration appears to significantly explain four out of five social mobility trajectory types, apart from lateral non-linear social mobility, where neither the main effect of migration, nor the migration-career interaction, are statistically significant. This implies that lateral non-linear mobility is not related on to-be graduates' and graduates' migration decisions, and there may be other aspects of graduates' career, which are more predictive of lateral non-linear social mobility. For example, while migration does not appear to significantly explain this type of social mobility, the effect of part-time careers remains significant in the final model M2.

In addition, the interaction term, which indicates that the role of migration is different in the different career types, is significant in three out of five models, apart from lateral linear social mobility. The result with respect to lateral linear social mobility, the most privileged social mobility type, indicates that, as compared to staying in non-escalators temporary migration can be beneficial, while complex migration might be harmful. Furthermore, as shown in Figure 7.6 and 7.8, when accounting for the effect of migration stayers in non-escalators, as well as temporary movers, are generally more likely to have lateral linear career, and this effect although not statistically significant in the final model M2, is equivalent for all career types.

In the three remaining models of social mobility - upward linear, upward non-linear, and downward - the effect of migration is dependent on the career type, indicating that migration plays different role in different types of career. Thus, while migration can facilitate social mobility for some career types, these effects are not equivalent for all. These are discussed in more detail in the following sections.

Table 6.3 Summary of results from modelling career type incorporating migration
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Stable careers		Part-timers		Self-employed		Fragmented	
			M1	M1 + Migration	M1	M1 + Migration	M1	M1 + Migration	M1	M1 + Migration
Control variables	Ratio of professional workers	%	-0.09 (0.075)	-0.08 (0.08)	x	x	x	x	0.08 (0.06)	0.10 * (0.06)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	-0.53 *** (0.20)	-0.55 *** (0.20)	x	x	0.27 (0.27)	0.31 (0.28)	0.43 ** (0.19)	0.43 ** (0.19)
		Ns-Sec 3 and 4	-0.58 *** (0.22)	-0.62 *** (0.22)	x	x	0.66 ** (0.29)	0.73 ** (0.29)	0.20 (0.22)	0.19 (0.22)
		Ns-Sec 5-7	-0.06 (0.23)	-0.12 (0.24)	x	x	-0.38 (0.43)	-0.34 (0.43)	0.38 * (0.22)	0.38 * (0.23)
	Gender (ref: Female)	Male	1.21 *** (0.16)	1.21 *** (0.16)	-2.63 *** (0.27)	-2.64 *** (0.27)	0.49 ** (0.22)	0.50 ** (0.22)	x	x
	Importance of family life (ref: very interested)	Not interested or sure	0.20 (0.28)	0.19 (0.28)	-1.25 *** (0.35)	-1.23 *** (0.35)	0.44 (0.30)	0.47 (0.30)	0.45 * (0.24)	0.44 * (0.25)
		Quite interested	0.55 ** (0.24)	0.60 ** (0.24)	-0.79 *** (0.23)	-0.86 *** (0.24)	-0.44 * (0.26)	-0.52 ** (0.26)	0.41 * (0.21)	0.45 ** (0.21)
	Ability (Maths)	Friendly Maths Test	0.02 ** (0.01)	0.02 ** (0.01)	x	x	x	x	x	x
Migration	Migration (ref: in Non-Escalators)	Complex Movers	x	-0.20 (0.21)	x	-0.38 (0.24)	x	-0.51 * (0.3)	x	0.58 *** (0.19)

Explanatory variables			Stable careers		Part-timers		Self-employed		Fragmented	
			M1	M1 + Migration	M1	M1 + Migration	M1	M1 + Migration	M1	M1 + Migration
		Stayers in and Lasting Movers to Escalators	x	-0.07 (0.18)	x	-0.35 * (0.21)	x	-0.03 (0.24)	x	0.31 ** (0.17)
		Temporary Movers	x	-0.82 *** (0.26)	x	0.45 * (0.26)	x	0.68 ** (0.29)	x	-0.09 (0.23)
	Constant		-1.98 ** (0.89)	-1.92 ** (0.90)	0.15 (0.16)	0.28 (0.19)	-2.44 *** (0.26)	-2.48 *** (0.29)	-1.12 (1.04)	-2.29 ** (1.12)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix I; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x-variable not included in the model

Table 6.4 Summary of results from modelling lateral linear social mobility incorporating migration
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Lateral linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	-0.69** (0.28)	-0.66*** (0.19)	-0.65*** (0.19)	-0.63** (0.28)	-0.68*** (0.19)
	Parental social class (ref=Ns-Sec 1)	Ns-Sec 3 and 4	x	x	-0.60** (0.24)	-0.59** (0.25)	-0.58** (0.25)	-0.58** (0.23)
		Ns-Sec 5-7	x	x	-0.41* (0.24)	-0.39 (0.25)	-0.43* (0.25)	-0.37 (0.24)
	Ability (Vocabulary)	Raw Vocabulary Test score	x	x	0.019* (0.01)	0.02* (0.01)	0.02* (0.01)	-0.35 (0.21)

Explanatory variables			Lateral linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Migration	Migration (ref: in Non-Escalators)	Complex Movers	-0.42** (0.21)	-0.64* (0.37)	x	-0.36 (0.22)	-0.60 (0.38)	-0.12 (0.18)
		Temporary Movers	0.39* (0.22)	-0.30 (0.48)	x	0.38* (0.23)	-0.35 (0.49)	0.36 (0.22)
	Constant		-1.06*** (0.11)	-0.70*** (0.18)	-1.72*** (0.55)	-1.66*** (0.56)	-1.49** (0.58)	-0.58*** (0.18)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix I; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x-variable not included in the model

Table 6.5 Summary of results from modelling lateral non-linear social mobility incorporating migration
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Lateral Non-linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Part-timers	x	0.86** (0.34)	0.48** (0.22)	0.49** (0.22)	0.86** (0.34)	0.48** (0.22)
	Ratio of professional workers	%	x	x	0.13** (0.07)	0.14** (0.07)	0.14** (0.07)	0.13** (0.07)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	0.39* (0.22)	0.39* (0.22)	0.41* (0.23)	0.39* (0.22)
	Constant		-1.58*** (0.13)	-2.04*** (0.26)	-3.14*** (0.63)	-3.15*** (0.64)	-3.39*** (0.67)	-3.14*** (0.63)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix I; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x-variable not included in the model

Table 6.6 Summary of results from modelling upward linear social mobility incorporating migration
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Upward linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	-0.53* (0.27)	-0.21 (0.17)	-0.21 (0.17)	-0.61** (0.28)	-0.57** (0.27)
		Part-timers	x	-0.79*** (0.29)	-0.65*** (0.20)	-0.62*** (0.20)	-0.83*** (0.29)	-0.81*** (0.29)
		Self-employed	x	-0.08 (0.34)	-0.51** (0.25)	-0.48* (0.25)	-0.14 (0.35)	-0.10 (0.35)
	Industry Sector (ref: Tertiary)	Secondary	x	x	-0.39** (0.17)	-0.40** (0.17)	-0.38** (0.17)	-0.39** (0.17)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 5-7	x	x	0.43** (0.21)	0.41* (0.21)	0.42* (0.22)	0.42* (0.21)
Migration	Migration (ref: in Non-Escalators)	Temporary Movers	-0.42* (0.25)	-0.79 (0.53)	x	-0.33 (0.25)	-0.80 (0.53)	-0.79 (0.53)
	Migration* typology (ref: Stayers in Non-Escalators * Stable)	Fragmented careers* Stayers in and Lasting Movers to Escalators	x	0.71* (0.40)	x	x	0.72* (0.41)	0.70* (0.41)
	Constant		-0.99*** (0.12)	-0.64*** (0.17)	-0.76*** (0.21)	-0.77*** (0.23)	-0.66*** (0.24)	-0.57** (0.23)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix I; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x-variable not included in the model

Table 6.7 Summary of results from modelling upward non-linear social mobility incorporating migration
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Upward non-linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.87*** (0.31)	0.71*** (0.19)	0.70*** (0.19)	0.88*** (0.31)	0.90*** (0.31)
	Ratio of professional workers	%	x	x	-0.17** (0.07)	-0.19** (0.08)	-0.18** (0.08)	-0.20*** (0.07)
Migration	Migration* typology (ref: Stayers in Non-Escalators * Stable)	Fragmented careers*Temporary Movers	x	-1.24* (0.72)	x	x	-1.21* (0.72)	-1.22* (0.72)
	Constant		-1.40*** (0.12)	-1.80*** (0.24)	-0.40 (0.78)	-0.28 (0.79)	-0.44 (0.81)	-0.15 (0.61)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix I; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x-variable not included in the model

Table 6.8 Summary of results from modelling downward social mobility incorporating migration
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Downward					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Part-timers	x	0.90** (0.42)	0.84*** (0.31)	0.83*** (0.32)	1.18*** (0.45)	1.18*** (0.45)
		Self-employed	x	0.38 (0.57)	0.67** (0.33)	0.68** (0.34)	0.44 (0.58)	0.44 (0.58)
	Gender (ref: Female)	Male	x	x	0.41* (0.24)	0.43* (0.25)	0.43* (0.25)	0.43* (0.25)
Migration	Migration* typology (ref: Stayers in Non-Escalators * Stable)	Part-timers* Temporary Movers	x	-1.47* (0.86)	x	x	-1.44* (0.87)	-1.47* (0.86)
	Constant		-2.17*** (0.16)	-2.63*** (0.33)	-1.97* (1.07)	-1.82* (1.09)	-2.05* (1.14)	-2.93*** (0.37)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix I; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x-variable not included in the model

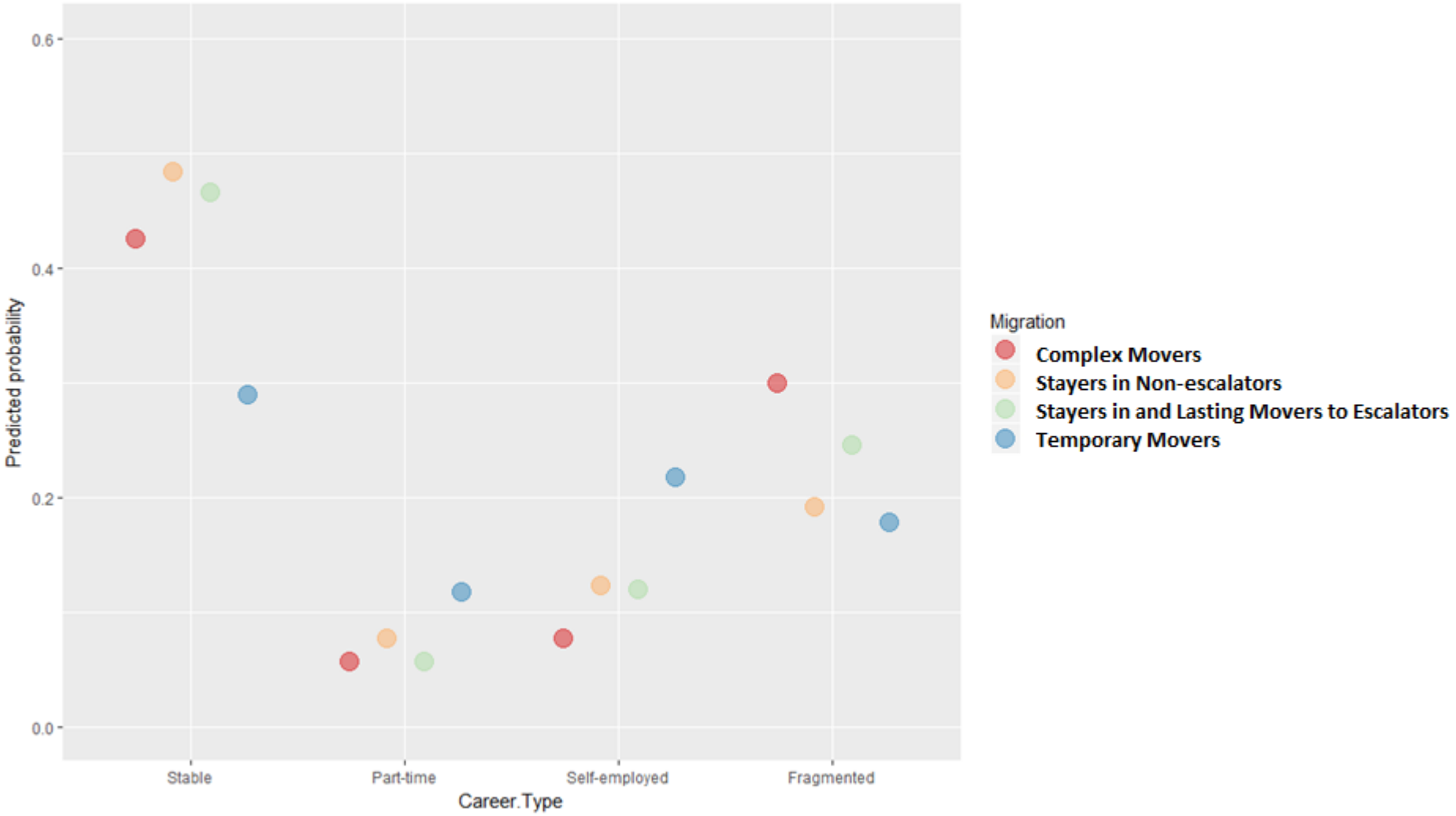

Figure 6.5 Predicted probability of career type by migration

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

6.4.1 Stayers in Non-escalators

Stayers in non-escalators reflect the most traditional, and well-researched view of the graduate labour market. As discussed in the introduction to this chapter, many previous studies, including both the derivation of SMI (Social Mobility and Child Poverty Commission 2016) and the analysis conducted in Chapter 6, do not take migration into account. This implicitly assumes that graduates do not move across regions, and therefore treating everyone as if they were rooted in place. Furthermore, as shown in Figure 7.5, stayers in non-escalators are most likely to have stable careers, which reflects the most commonly researched labour market participants. They transition from education to full-time job directly, and remain in this type of economic activity thereafter, and also do not move across the types of regions.

Their lack of migration might be indicative of financial constraints (Christie 2007), or related to high level of familiarity with the place (Hinton 2011), which gives them location specific insider advantage (Fischer and Malmberg 2001), thereby discouraging them from out-migration. The results show that this insider advantage might be most beneficial for the self-employed graduates, as accounting for migration increases their probability of having an upward social mobility trajectory, both linear and non-linear, and decreases their probability of having downward social mobility. The transition to self-employment is described in the literature as an 'anxious period', during which the organisational support is ought to be replaced by individual's own resources and entrepreneurial abilities (Gold and Fraser 2002). Thus, the local networks, familiarity with the place, and insider advantage might be related to the success of the self-employed graduates.

In several cases the results regarding the benefit of migration are ambiguous, and distinct conclusions cannot be reached. This can happen for two reasons. In some cases, accounting for migration increases both the probability of having upward and the probability of having downward career, rendering migration a risky strategy. In other cases, the probably of one of the types of upward mobility increases while the

probability of the other type of upward mobility decreases, rendering inconsistent results with respect to migration being a facilitator of upward mobility.

The result with respect to graduates on fragmented careers as well as stable careers for stayers in non-escalators are ambiguous. As shown in Figure 7.6, in terms of fragmented career graduates, when the lack of migration is accounted for in the model, their predicted probability of having an upward non-linear social mobility trajectory increases, while the predicted probability of them having upward linear social mobility decreases. Lasting residence in non-escalators also increases their predicted probability of having downward social mobility. Similarly, in the case of stable career graduates, accounting for their lack of migration increases their predicted probability of having upward linear social mobility, while it simultaneously slightly decreases their predicted probability of having upward non-linear social mobility.

Staying in the non-escalator region might be the least beneficial strategy for the graduates on part-time careers. Accounting for migration substantially increases their predicted probability of downward social mobility, while little difference can be observed in terms of their predicted probability of upward social mobility. As a vast proportion of graduates in this type of career are females, this may confirm the conclusion reached by Goldthorpe (2016) that women self-selected into part-time work, thereby choosing to accept the downward mobility related to this type of employment. However, previous studies indicate that women struggle more and more to respond to the competing demands of education, work and childbearing (Anyadike-Danes and McVicar 2010) and they face a hindrance to career advancement from low level entry jobs (Bukodi and Dex 2009). This increased likelihood of downward mobility for part-timers who stay in non-escalators may indicate that the lack of experience outside of the given environment, inevitably creates a glass ceiling, restricting part-timers from securing or maintaining professional or managerial occupations following the switch to part-time work.

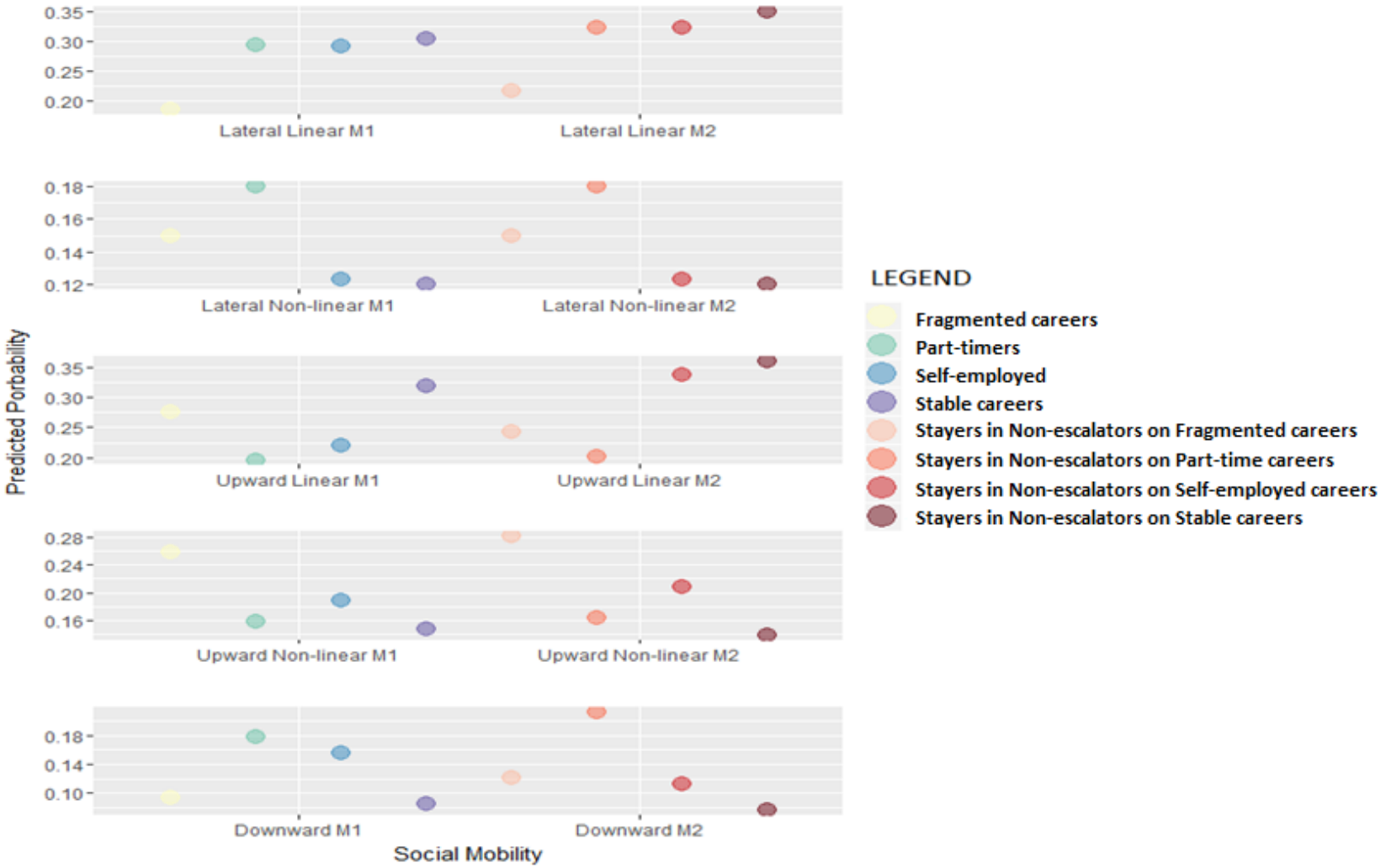

Figure 6.6 Predicted probability of social mobility for stayers in non-escalators

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

6.4.2 Stayers in Escalators and Lasting Movers to Escalators

Under ERT, stayers and lasting movers to escalators would experience escalated social mobility, as compared to stayers in non-escalators (Fielding 1992). However, the results of this analysis show limited support for this. Contradictory to what was expected, the main effect of lasting residence in escalators, as compared to staying elsewhere is not significant in any of the models, indicating that the advantage gained by moving to escalators over those who stay elsewhere is limited. Furthermore, lasting migration has little effect on the predicted probability of the graduates on stable careers as shown in Figure 7.7. This indicate that ERT operates on different principles in graduate labour market, and is dependent on the career type graduates select themselves onto.

As also shown in Figure 7.7, the results indicate that lasting migration might be the most beneficial for graduates on fragmented as well as part-time careers. The result show that in the case of both these career types, the predicted probability of having an upward social mobility, both linear and non-linear, increases when accounting for lasting migration to and residence in escalators. At the same time, the predicted probability of having downward social mobility decreases. Thus, there is some evidence to confirm ERT (Fielding 1992), as lasting residence in escalators is likely to offer opportunities, which may be inaccessible in the home region for fragmented and part-time career graduates. However, this may only be experiences at the expense of fragmentation of the career, or spells of part-time work. This effect might be related to migration is a selective process (Rérat 2014), by which offers rewards only to the most determined and committed graduates.

Lasting migration to escalators is not beneficial for self-employed career graduates. The results show that, when accounting for lasting migration, their probability of experiencing upward linear social mobility decreases, while the probably of downward social mobility increases. Lasting migration shows little effect on the predicted probability of self-employed graduates of having upward non-linear social mobility.

Figure 6.7 Predicted probability of social mobility for lasting movers to escalators
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

6.4.3 Temporary Movers to Escalators

Previous studies often compare two timepoints, making it impossible to detect temporary migration, and therefore little is known about this type of migrants. Furthermore, previous studies often limit the analytical sample to those in full-time paid employment, thereby potentially overestimating the size of labour market participants with stable careers, who do not migrate. As shown in Table 7.3, temporary movers are unlikely to have stable careers. This could explain why the size of the temporary movers group have been underestimated in previous studies. Temporary movers are unlikely to have stable or fragmented careers, and relatively more likely to have self-employed or part-time careers. As shown in Chapter 5, part-timers tend to switch from full-time to part-time employment in late twenties and early thirties. Similarly, graduates on self-employed careers tend to switch to self-employment from full-time paid employment at this age. These two transitions correspond in time with the moves out of escalators, as shown in section 7.2.1.

Both part-timers and self-employed might move out of escalators, and be willing to compromise their opportunities for escalated careers in earlier stages of their careers for different reasons. Part-timers tend to spend considerable amount of time looking after the family, as compared to other career graduates. This indicates that the moves out of escalators might not be purely economically driven, but related to a desire to live in areas, which are considered safer, and where the pace of life is thought to be slower, as such settings are considered more appealing to raise a family, have lower costs of living, or greater propensity for achieving the work-life balance (Romei 2018).

The to-be self-employed might move to escalators in early stages of their career to capitalise on the opportunity to familiarise themselves with the 'business-friendly' environment. Therefore, a move to escalators might be preparatory for later transition to self-employment, and performed to gather resources, to gain entrepreneurial abilities, or to develop networks of potential consumers and investors. Previous studies, indicate that the London exports entrepreneurs (Fielding 1989, Reuschke 2013). This study provides support for this premise, as the later life transitions to self-

employment corresponds in time with their migration out of London. Furthermore, many modern types of self-employment are not bounded by the geographical location, and as stated by Smith, Finney, and Walford (2016, p. 102), "when viewed as lifestyle choice, decisions to downsize accommodation, move to self-employment or part-time working may be seen as preparing the ground for future or enabling actual migration and residential change". With the wide availability of internet (McQuaid and Lindsay 2005), the increasing significance of home-based self-employment (Mason and Reuschke 2015), the growth of digital economy (Wargin and Dobiéy 2001), and "digital nomads", modern entrepreneurship is more likely to be independent from geographical location. Thus, planning to or having become self-employed, entrepreneurs might move out of London, to places where the quality of life is better, and their expenses are likely to be lower. Thus, having obtained the necessarily for the successful transition through the anxious period skills and knowledge in escalators, they out-migrate during their mid-career.

Temporary migration is beneficial for all career types. As shown in Figure 7.8 temporary movers are more likely to have lateral linear social mobility, as the predicted probably increases by around 10% when accounting for migration. This effect is also independent of the career type. Part-time career graduates benefit form temporary migration the most. While accounting for temporary migration has little effect on their probability of upward social mobility, it substantially decreases their probably of experiencing downward social mobility. Thus, for part-time career graduates temporary migration is more likely to act as a travellator (Findlay et al. 2009), preventing them from moving down social strata, rather than facilitating their upward mobility.

The results with respect to temporary migration are ambiguous for self-employed graduates. While accounting for temporary migration decreases their predicted probability of upward linear social mobility, it simultaneously increases their probability of having upward non-linear social mobility. However, also in the case of self-employed graduates, temporary migration offers significant protection from downward social mobility, as the predicted probability of having downward mobility

decreases substantially. In addition, accounting for temporary migration has ambiguous effect on stable career graduates. While it decreases their probability of having upward linear social mobility, it increases their probability of having upward non-linear social mobility. At the same time, the predicted probably of downward mobility increases substantially for stable career graduates, rendering temporary migration a risky strategy for stable career graduates.

Temporary migration is the least beneficial for fragmented career graduates. While there is little change to their predicted probability of having upward linear social mobility, accounting for temporary migration decreases their probability of having upward non-linear social mobility, and increases their probability of having downward social mobility. Thus, the temporary migrant on fragmented careers might reflect the graduates who moved to escalators with the hope for escalated upward mobility. However, having experienced substantial instabilities in their work life, they may have surrendered these hopes and decided to move back to non-escalators, accepting downward mobility as a result.

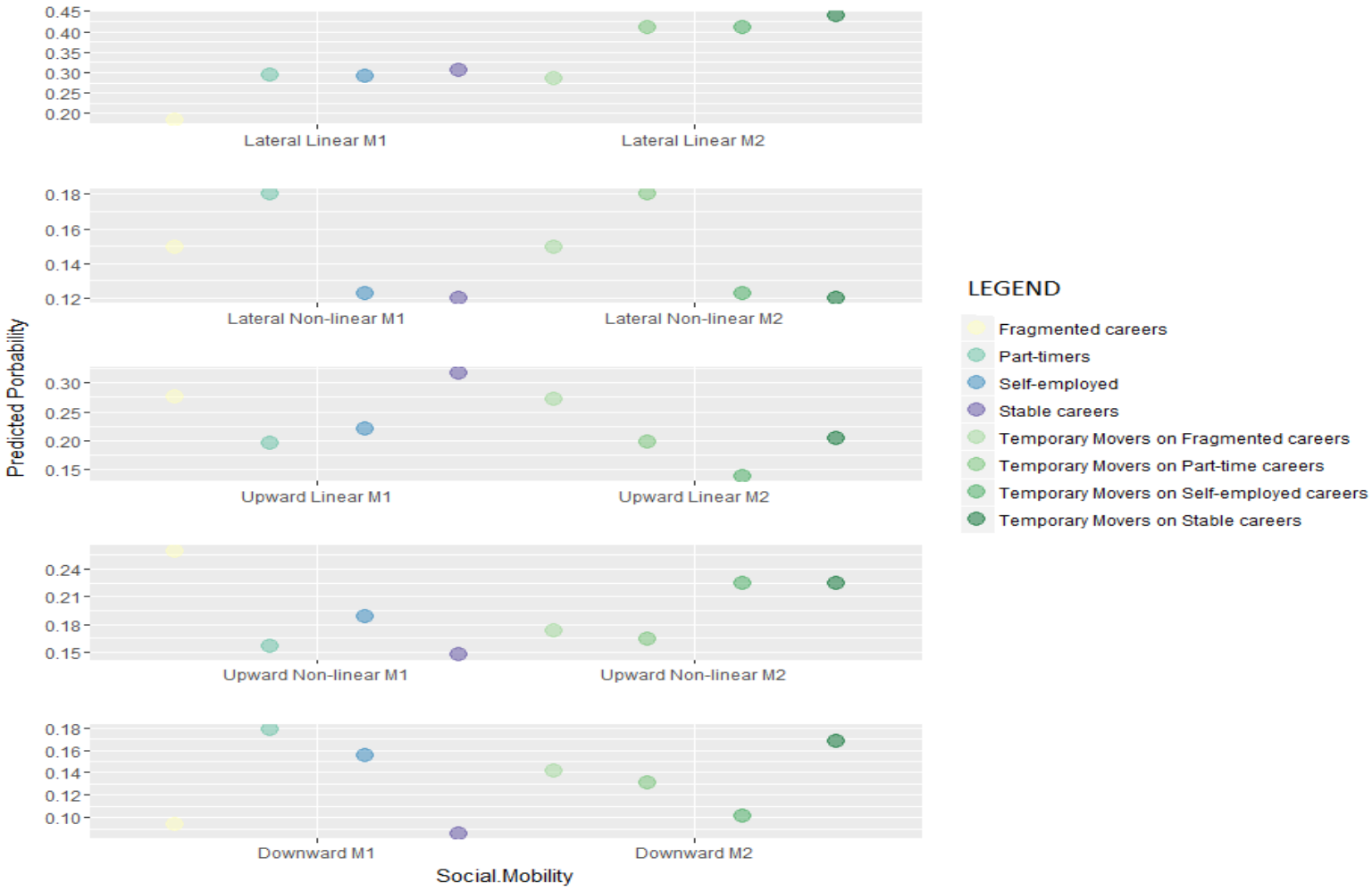

Figure 6.8 Predicted probability of social mobility for temporary movers to escalator

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

6.4.4 Complex Movers

The lack of internal heterogeneity with respect to the timing and frequency of moves in the complex movers cluster creates a difficulty in terms of interpretation of the results for this group. As shown in previous section of this chapter, this group of movers are most likely to have moved more than once and their geographical mobility is inconsistent with the assumptions of the ERT theory. Under the assumptions of ERT, this might imply that complex movers are least likely to prioritise their social mobility, and might have been driven by other than economic reasons, such as divorce or widowhood (Evandrou, Falkingham, and Green 2010, Waldorf and Do Yun 2016). This group of movers is more likely to have fragmented career and unlikely to follow self-employed careers. This further indicates that migration is related to fragmentation of the career, and leads to increased risk of economic instability in the year following the move (Geist and McManus 2008). At the same time, the insider advantage might be most beneficial for the self-employed, rooting them in place, as already discussed in section 7.3.1.

The results shown in Figure 7.9 indicate that complex migration might be the most beneficial for fragmented career graduates. Accounting for complex migration trajectories increase the predicted probably of fragmented career graduates to experience upward, both linear and non-linear social mobility. At the same time, it slightly reduces their predicted probability of experiencing downward social mobility.

The results with respect to complex migration are ambiguous for the part-timers, stable career graduates, and for the self-employed, indicating that complex migration can be associated with substantial risk for these three groups. While for part-timers and for those on stable careers accounting for migration increases their predicted probability of having upward social mobility, both linear and non-linear, the predicted probability of having downward social mobility also increases. For the self-employed there is little change in the predicted probably of upward linear social mobility, while the predicted probability of upward non-linear as well as downward social mobility increases with complex migration.

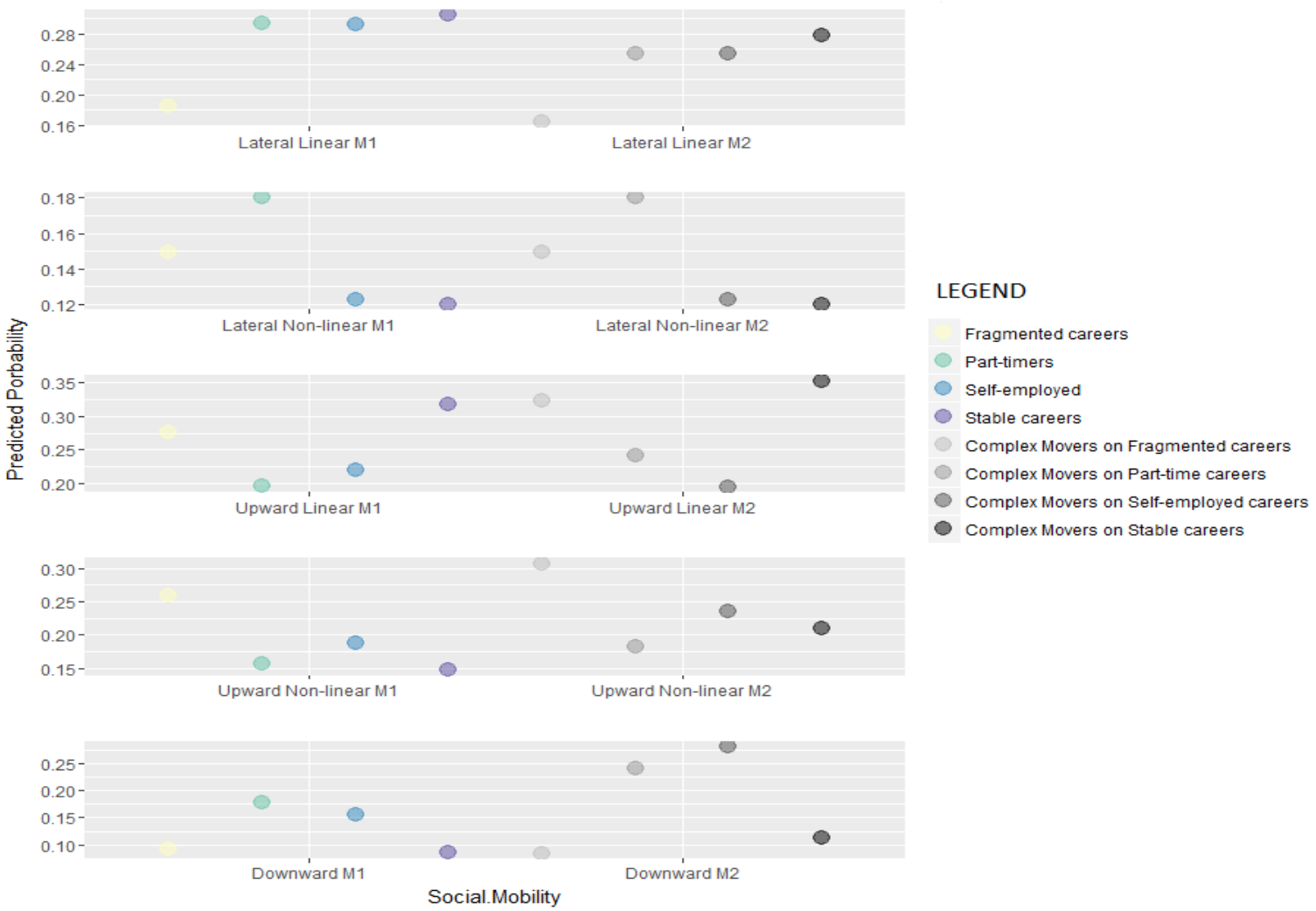

Figure 6.9 Predicted probability of social mobility for complex movers
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

6.5 Concluding thoughts

The results of the analysis conducted in this chapter offer limited support for the ERT in graduates' careers context, indicating that the role of migration to and out of escalators appears to be much more complex than predicted under ERT. This conclusion is based on several observations. Firstly, 19.35% of the analytical sample does not act as predicted under the ERT, having complex migration trajectories. In addition to that, 11.76% only partially act as predicted act as predicted under the ERT, fulfilling only the first stage criterion. Secondly, stepping off stage occurs much earlier than expected. The results show that, while a quarter of graduates in the analytical sample moved to escalators in the early stages of their career, almost half of them moved out by the time they were age 42. Furthermore, no statistical differences are detected in terms of upward mobility of the main effect of lasting movers and residents in escalators, as compared to stayers in non-escalators. Only in the case of lasting movers who have fragmented careers, as compared to the stayers in non-escalators with stable careers, increase likelihood of upward linear social mobility, and therefore escalating capability of migration to escalators, is detected.

This further implies that migration can facilitate upward social mobility, but this is likely related to the flexibility, adaptability and efficient navigation of the career building process of the migrants who self-select into this group, rather than the increased opportunities the escalator regions. As stated above, upward mobility can be achieved by migration, but it is likely to be related to economic instability, and fragmentation of the career. The results consistently show that migration is related to disruption and fragmentation of career, which indicates that stepping on the escalator is only one of the challenges, which may arise along their way up the social ladder. This could be related to the fact that in escalators region, where the proportion of professional jobs is higher, provide an environment which supports non-linearity, as indicated in section 6.3.1.2. Nevertheless, this environment is likely to be more competitive, and therefore requires more skills such as: resilience, adaptability, and

determination, to deal with a variety of situations a graduate in an escalator region may encounter.

The results with respect to temporary movers offer novel insights. Firstly, temporary movers represent a substantial proportion of the graduates, and are more likely to be self-employed or part-timers. As these types of employment are often omitted from career research (Mulhall 2011), the size of this type of movers might have been underestimated in the previous studies. Secondly, the results show that temporary migration can have a travellator (Findlay et al. 2009), rather than escalator, effect. This can be demonstrated by the increased likelihood of all temporary migrants to experience lateral linear social mobility. This is especially noticeable in the case of graduates who do not develop their careers in the traditional, full-time employment paradigm, especially the part-timers and the self-employed. For graduates on these two types of careers temporary migration has been shown to protect them for downward mobility and thereby helping them to remain above the glass floor (Reeves and Howard 2013), in years following the move out of the escalator. At the same time, the likelihood of having downward career for the part-timers who stay in non-escalators has been much greater.

There are two explanations for this. On one hand, as previously discussed, migrating to escalators might equip graduates with skills, experiences, and networks. Employers in non-escalators appreciate these, and reward them by offering return-migrants jobs related to similar social classes as those performed in the escalator regions, even upon return to non-escalators or switches to part-time employment. Alternatively, temporary migration might be a mechanism by which the higher social classes ensure their privileged position. As shown in Chapter 6, having parents with greater financial and social resources helps the children from more privileged families to secure good quality employment earlier in life. In addition, these resources might contribute to their increased ability to migrate and gain experience and skills in escalator regions, regardless of their level of aspiration (Carling 2002). The experience of residence in the escalators then further ensures their protection from downward mobility, even upon returns to non-escalators. Thus, while opportunity hoarding (Tilly 1998) is the

mechanism fuelling the travellator effect of temporary migration, the lack of migration is a scapegoat, at which the blame for downward mobility of non-migrants is placed.

The final conclusion, reached in this chapter, answers RQ3. Migration plays different role in different careers, highlighting the importance of the context. It does not explain away the effect of career type, instead it reinforces its importance, which can be demonstrated by three statistically significant interactions between migration and career type. This shows that the context of career is vital for understanding the facilitating capability of migration, rendering career an important component for understanding social mobility.

Chapter 7 Degrees of Degrees: The Role of Higher Education

"Behind the very simple idea of mass system of higher education we have to recognise a very complex institutional hierarchy and the continued reproduction of racialised and classed inequalities. Higher education is not the same experience for all, neither it is likely to offer the same rewards for all."

(Reay et al. 2001 p. 1872)

7.1 Introduction

This chapter aims to answer RQ4, which asks what is the role of higher education in the context of different career types for social mobility? It builds on the literature discussed in section 2.5.2. More specifically, it tests the extent to which OED triangle (Blau and Duncan 1967) theory applies within the British graduates context, investigating whether the association between parental social class and social mobility trajectories can be explained by the characteristics of graduate's education, within the context of the given career type. The characteristics include: degree grade, field of study, degree awarding institution, the frequency of spells in which education is experienced, and the timing of education in one's life course. The aims of this chapter are achieved by incorporating the educational characteristics, measured as described in sections 4.2.5 and 4.3.2, into the models M2, which were discussed in previous chapter. The models fitted to the analytical sample in this chapter is defined by equation 6 and 7 in section 3.5.2. This chapter reiterates the background behind these analyses, which is followed by the presentation and discussion of the findings. The final section concludes with the overview of the findings

This study contributes to the recent debates about the role of education in two ways. Firstly, OED triangle is most commonly evaluated, and best understood, in the context of full-time paid employment. This study addresses this gap by evaluating the facilitating capability of degree grade, field of study, and institution, in the context of the different career types, allowing for better understanding of the role education plays in levelling out the social class differences. Secondly, the longitudinal characteristics of education vary across the career types, and therefore the differences in likelihood of experiencing social mobility trajectories by career type can simply be reflective of the differences in educational trajectory patterns. This is addressed by recognising, measuring, and evaluating the longitudinal characteristics of education as independent of career type. Isolating the effect of the way in which education is experienced, from the effect of the career type, sheds more light on the role of education.

7.2 Background

It is embedded in human capital theory that knowledge, acquired via higher education, is key ingredient to social mobility (see for example Becker 1975, 1962). This is consistent with the assumption of meritocracy, and implies that ability and effort, which can be manifested by graduates' qualifications, are affecting their social position. However, previous analysis conducted in this thesis demonstrates that, amongst the indicators of the circumstances in which the early life of the graduates' unfolded, parental social class is one of the most significant factors predicting both the social mobility trajectory and the career type. The results show that children from lower parental social background are less likely to follow the most privileged - lateral linear - social mobility trajectories, and more likely to climb the social ranks entering the labour market via routine and semi-routine qualifications, despite similar level of education. These results provide support for the theory of intergenerational transmission of advantage and disadvantage, and indicate that social class membership legitimises inequalities, which offers limited support for meritocratic selection in graduate labour markets.

These results are somewhat consistent with previous research, confirming that parental social class is one of the main predictors of later life chances. For example, Werfhorst, Sullivan, and Cheung (2003) show that children from higher social class backgrounds achieved a higher standard in school, Ball, Reay, and David (2002) highlight the role 'educational inheritance' plays in admissions to higher education, Blanden and Machin (2004) argue that expansion of higher education disproportionately benefited children from rich families, and Bukodi et al. (2016) show that there is little indication of movement towards a meritocracy in Britain between the three British cohorts, born in 1948, 1952 and 1970.

Nevertheless, other previous studies show that education can act as an equaliser (Torche 2011), and childhood social advantage on access to top jobs in mid-life is entirely channelled by education (Sullivan et al. 2017). Thus, it can be expected that educational characteristics play a role in levelling out the social background differences in propensity to follow social mobility trajectories. For example, in the stable career context, employers can recognise graduates' credentials as indicative of their knowledge, skills, or commitment, and reward them with the corresponding occupational status. However, in the context of careers, which dependent on traditional organisational principles to a lesser extent, the facilitating capabilities of education is less clear. Can qualifications facilitate the social mobility of graduates on different career types to the same extent? Or, are certain aspects of higher education rewarded in some career types while penalised in others?

7.3 Results and Discussion of the Role of Education in a Career Type

This section presents and discusses the results or incorporating educational characteristics, as well as their interaction terms with the career types into previous models. Table 8.1 shows the distribution of the graduates with different types of degree level across the social mobility trajectories. Table 8.2 shows the distribution of the continuous variable across these groups. The summaries of the results with respect to the career type are shown in Tables 8.3 to 8.6, with one table per career type. The

results with respect to social mobility types are shown in Tables 8.7 to 8.11, with one table per social mobility type. These tables only show the levels of the variables which exhibit a level of statistical significance, the full modelling summary can be viewed in Appendix J.

Table 7.1 Descriptive statistics of categorical variable denoting educational characteristics

Source: British Cohort Study 1970 (analytical sample)

		Lateral Linear		Lateral Non-linear		Upward Linear		Upward Non-linear		Downward	
		N	%	N	%	N	%	N	%	N	%
Institution	Pre-92 universities	59	22	41	22	47	16	49	21	29	27
	Old universities	84	32	42	23	84	29	61	26	32	30
	Post 92	93	35	78	42	112	39	90	38	29	27
	N/A	30	11	23	13	47	16	34	15	16	15
	Total	266	100	184	100	290	100	234	100	106	100
Field of study	COMB	15	6	14	8	18	6	17	7	12	11
	LEM	27	10	36	20	48	17	44	19	16	15
	OSSAH	81	30	64	35	102	35	80	34	22	21
	STEM	123	46	48	26	82	28	63	27	39	37
	N/A	20	8	22	12	40	14	30	13	17	16
	Total	266	100	184	100	290	100	234	100	106	100
Grade	First or upper second	122	46	87	47	134	46	109	47	47	44
	Lower second	72	27	51	28	90	31	64	27	30	28
	Pass or third	43	16	13	7	22	8	21	9	15	14
	N/A	29	11	33	18	44	15	40	17	14	13
	Total	266	100	184	100	290	100	234	100	106	100
Frequency of spells	Multiple spells	55	21	67	36	141	49	117	50	34	32
	One spell	211	79	117	64	149	51	117	50	72	68
	Sum	266	100	184	100	290	100	234	100	106	100

As shown in Table 8.1 the percentage of graduates which have a degree from old institution is the highest for graduates on lateral linear social mobility trajectories (32%), which indicates that the old institutions may be the most successful in transmitting the advantage across generations. The percentage of graduates which have a degree from old institution is the lowest for graduates on lateral non-linear social

mobility trajectories (23%), which indicates that these social mobility trajectories may be reflective of more contemporary labour market structures. The graduates from the newer, pre-92 institutions, are most prevalent on downward social mobility trajectories (27%), which may point to a low value of degree from these institutions, as recognised by the social mobility of their graduates. These institutions are also unlikely to facilitate upward linear social mobility, as the prevalence with graduates with this social mobility type is the lowest across all type (16%). In contrast, the graduates with degrees from the post-92 institutions with downward social mobility trajectories are the least prevalent (27%), and graduates with these degrees are most likely to have lateral non-linear social mobility trajectories (42%). The range of these percentage is also the highest as it varies by 15 percentage points, which the highest variability in terms of social mobility trajectories amongst graduates with degrees from different institutions.

With respect to the field of study, Table 8.1 reveals the widest range in percentages across the social mobility type for STEM degrees, which may be why the capacity of STEM degrees to deliver social mobility is unclear (Britton et al. 2017). Graduates with STEM degrees are most prevalent on lateral linear social mobility trajectories (46%), and least prevalent on lateral non-linear social mobility trajectories (26%). The upward non-linear social mobility trajectories are the second least prevalent type (27%). This indicates that the careers offered by STEM degrees are unlikely to be non-linear, but their directionality is less clear. Table 8.1 also shows that graduates with OSSAH degrees are most likely to have lateral non-linear or upward linear social mobility trajectories (35% in both cases), while they are least likely to have downward social mobility (21%), which may confirm the facilitating capability of OSSAH degrees. Table 8.1 also reveals that LEM degrees are the most prevalent amongst graduates with non-linear social mobility trajectories, 20% of graduates on lateral non-linear trajectories has LEM degrees, which is closely followed by 19% in the case on upward non-linear social mobility. These graduates are the least prevalent on the most privileged lateral linear social mobility trajectories, as only 10% of graduates on this social mobility trajectory has LEM degrees. COMB degrees show the lowest range,

which varies by 5 percentage points between 6% of graduates on lateral linear and upward linear trajectories, and 11% for those on downwards trajectories, which may point to the importance of specialisation.

In terms of the degree grade, Table 8.1 shows that graduates with the highest degree grades are most prevalent on the non-linear social mobility trajectories, both upward and lateral (47% in both cases), which is closely followed by the linear trajectories, both upward and lateral (46% in both cases). These graduates are the least prevalent on downward trajectories (44%), which may point to higher degree grade playing a preventive function. However, graduates with the lowest degree grade, third or pass, are most prevalent on the most privileged social mobility trajectory (16%), which challenges the assumption that higher degree grade is necessary for better jobs in later life.

In terms of the number of educational spells, Table 8.1 shows that graduates with one spell of education are most prevalent on lateral linear social mobility trajectories (79%), while the remaining 29% is the lowest percentage of graduates on these trajectories across all social mobility types. This indicates that, if the glass tunnel is entered early, no additional formal education is needed in order to remain above glass floor. The upward non-linear trajectories show the opposite patterns, these have the highest percentage of graduates with multiple spells of education, and the lowest percentage of graduates with one spell of education (50% in both cases). This indicates that additional spells of formal education can facilitate upward mobility at the expense of discontinuity in careers.

Table 7.2 Descriptive statistics of continuous variables denoting educational characteristics
Source: British Cohort Study 1970 (analytical sample)

		Lateral Linear	Lateral Non-linear	Upward Linear	Upward Non-linear	Downward
Timing of education (Age)	N	266	184	290	234	106
	Mean	23.64	23.85	24.47	24.91	23.76
	Standard Deviation	3.79	4.41	5.25	5.8	4.76

As shown in Table 8.2, the variability in average age at the last transition out of education is relatively low across all social mobility types. It varies between the ages of 23.64 for lateral linear social mobility trajectories and 24.91 for upward non-linear social mobility. The standard deviation of this age shows the same pattern, indicating that the variability is the lowest on lateral linear trajectories and the highest on upward non-linear trajectories.

However, the above patterns could be partially driven by the missing data, and the inferential analysis on multiply imputed datasets in needed in order to assess the statistical significance of these effects. Thus, the remainder of this section discusses the results displayed in Tables 8.3 to 8.11. The first four table shows the results with respect to career type, while the latter 5 tables shows the results with respect to social mobility trajectories. These results are discussed below, in sections 8.3.1 to 8.3.5, where each section is dedicated to the results with respect to one of the aspects of higher education investigated in this study and where all of the results shown in Tables 8.3 to 8.11 are synthesised. Only the results which show a degree of statistical significance in at least one of the models are discussed.

Table 7.3 Summary of results from modelling stable careers incorporating characteristics of education
Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Stable careers								
			Education only	M2	M2 +Education					Full model	M3
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	-0.54 *** (0.20)	-0.53 ** (0.21)	-0.45 ** (0.20)	-0.54 *** (0.20)	-0.54 *** (0.20)	-0.54 *** (0.20)	-0.46 ** (0.22)	-0.46 ** (0.21)
		Ns-Sec 3 and 4	x	-0.61 *** (0.22)	-0.61 *** (0.22)	-0.59 *** (0.22)	-0.62 *** (0.22)	-0.52 ** (0.23)	-0.66 *** (0.24)	-0.60 ** (0.25)	-0.59 ** (0.24)
	Gender (ref: Female)	Male	x	1.22 *** (0.16)	1.22 *** (0.16)	1.04 *** (0.16)	1.17 *** (0.16)	1.27 *** (0.17)	1.39 *** (0.18)	1.21 *** (0.18)	1.20 *** (0.18)
		Not interested or sure	x	0.61 ** (0.24)	0.61 ** (0.24)	0.53 ** (0.25)	0.57 ** (0.24)	0.59 ** (0.26)	0.69 ** (0.27)	0.58 * (0.28)	0.57 ** (0.28)
	Ability (Maths)	Friendly Maths Test	x	0.02 ** (0.01)	0.02 ** (0.01)	0.02 * (0.010)	0.02 ** (0.01)	0.03 ** (0.011)	0.03 ** (0.01)	0.02 * (0.01)	0.02 ** (0.01)
Migration	Migration (ref: Stayers in Non-escalators)	Temporary Movers	x	-0.84 *** (0.26)	-0.84 *** (0.26)	-0.82 *** (0.26)	-0.84 *** (0.26)	-0.88 *** (0.27)	-0.76 *** (0.27)	-0.80 *** (0.28)	-0.80 *** (0.28)
Education	Field of study (ref: STEM)	COMB	-1.00 *** (0.31)	x	x	-0.75 ** (0.33)	x	x	x	-0.72 ** (0.35)	-0.73 ** (0.36)
		OSSAH	-1.32 *** (0.18)	x	x	-0.89 *** (0.20)	x	x	x	-0.74 *** (0.22)	-0.74 *** (0.22)

Explanatory variables			Stable careers								
			Education only	M2	M2 +Education					Full model	M3
	Grade (ref: First or 2:1)	Third or pass	0.88 *** (0.23)	x	x	x	0.57 ** (0.25)	x	x	0.25 (0.28)	0.27 (0.27)
	Number of spells (ref: one spell)	Multiple spells	-1.52 *** (0.17)	x	x	x	x	-1.59 *** (0.18)	x	-0.69 *** (0.22)	-0.69 *** (0.22)
	Timing	Age	-0.21 *** (0.02)	x	x	x	x	x	-0.25 *** (0.03)	-0.19 *** (0.03)	-0.18 *** (0.03)
	Constant		-	-2.51 *** (0.57)	-2.48 *** (0.56)	-0.89 *** (0.20)	-2.66 *** (0.60)	-2.19 *** (0.60)	2.97 *** (0.82)	2.25 ** (0.93)	2.17 *** (0.91)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model

Table 7.4 Summary of results from modelling part-time careers incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Part-timers								
			Education only	M2	M2 +Education					Full model	M3
Control	Gender (ref: Female)	Male	x	-2.64 *** (0.27)	-2.65 *** (0.27)	-2.53 *** (0.28)	-2.61 *** (0.27)	-2.64 *** (0.27)	-2.64 *** (0.27)	-2.51 *** (0.28)	-2.51 *** (0.28)
	Importance of family life (ref: very interested)	Quite interested	x	-1.24 *** (0.35)	-1.25 *** (0.35)	-1.17 *** (0.36)	-1.24 *** (0.35)	-1.24 *** (0.35)	-1.24 *** (0.35)	-1.19 *** (0.35)	-1.19 *** (0.35)

Explanatory variables			Part-timers								
			Education only	M2	M2 +Education					Full model	M3
		Not interested or sure	x	-0.87 *** (0.24)	-0.89 *** (0.24)	-0.83 *** (0.24)	-0.85 *** (0.24)	-0.87 *** (0.24)	-0.87 *** (0.24)	-0.82 *** (0.24)	-0.82 *** (0.24)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	-0.34 (0.23)	-0.32 (0.23)	-0.40 * (0.23)	-0.35 (0.23)	-0.35 (0.23)	-0.34 (0.23)	-0.37 (0.23)	-0.38 (0.23)
		Stayers in and Lasting Movers to Escalators	x	-0.33 (0.21)	-0.31 (0.22)	-0.37 * (0.21)	-0.34 * (0.21)	-0.33 (0.21)	-0.33 (0.21)	-0.37 * (0.21)	-0.37 * (0.21)
		Temporary Movers	x	0.47 ** (0.26)	0.49 * (0.25)	0.50 * (0.26)	0.46 * (0.26)	0.47 * (0.25)	0.47 * (0.25)	0.51 * (0.26)	0.51 * (0.26)
Education	Institution (ref: post 92)	Old universities	-0.40 ** (0.20)	x	-0.35 (0.22)	x	x	x	x	-0.35 (0.22)	-0.35 (0.23)
	Field of study (ref: STEM)	COMB	0.75 ** (0.31)	x	x	0.43 (0.35)	x	x	x	0.34 (0.35)	0.34 (0.35)
		OSSAH	1.13 *** (0.18)	x	x	0.52 ** (0.21)	x	x	x	0.47 ** (0.23)	0.46 ** (0.22)
	Grade (ref: First or 2:1)	2:2	-0.32 * (0.17)	x	x	x	-0.22 (0.19)	x	x	-0.28 (0.19)	-0.27 (0.19)
		Third or pass	-1.02 *** (0.31)	x	x	x	-0.51 ** (0.34)	x	x	-0.47 ** (0.35)	-0.45 ** (0.34)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model

Table 7.5 Summary of results from modelling self-employment careers incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Self-employed								
			Education only	M2	M2 +Education					Full model	M3
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 3 and 4	x	0.73 ** (0.29)	0.83 *** (0.30)	0.70 ** (0.29)	0.73 ** (0.29)	0.71 ** (0.29)	0.72 ** (0.29)	0.80 *** (0.30)	0.80 *** (0.30)
	Gender (ref: Female)	Male	x	0.50 ** (0.22)	0.48 ** (0.22)	0.71 *** (0.23)	0.55 ** (0.23)	0.51 ** (0.22)	0.51 ** (0.22)	0.71 *** (0.23)	0.68 *** (0.23)
	Importance of family life (ref: very interested)	Not interested or sure	x	0.47 (0.30)	0.48 (0.30)	0.57 * (0.32)	0.49 (0.30)	0.47 (0.30)	0.47 (0.30)	0.59 * (0.31)	0.58 * (0.31)
		Quite interested	x	-0.52 *** (0.26)	-0.51 * (0.26)	-0.44 (0.27)	-0.49 * (0.26)	-0.51 ** (0.26)	-0.52 ** (0.26)	-0.41 (0.27)	-0.43 (0.27)
Migration	Migration (ref: in non-escalators)	Complex Movers	x	-0.51 * (0.30)	-0.56 * (0.30)	-0.58 * (0.30)	-0.51 * (0.30)	-0.52 * (0.30)	-0.52 * (0.30)	-0.63 ** (0.31)	-0.62 ** (0.31)
		Temporary Movers	x	0.68 ** (0.29)	0.72 ** (0.29)	0.65 ** (0.29)	0.69 ** (0.29)	0.68 ** (0.29)	0.68 ** (0.29)	0.68 ** (0.30)	0.68 ** (0.30)
Education	Institution (ref: post 92)	Pre-92 universities	0.59 ** (0.32)	x	0.64 * (0.34)	x	x	x	x	0.56 * (0.35)	0.58 * (0.34)
		Old universities	0.53 *** (0.25)	x	0.57 ** (0.26)	x	x	x	x	0.54 ** (0.26)	0.54 ** (0.26)
	Field of study (ref: STEM)	LEM	-0.59 * (0.35)	x	x	-0.45 0.36	x	x	x	-0.41 (0.37)	-0.38 (0.37)

Explanatory variables			Self-employed								
			Education only	M2	M2 +Education					Full model	M3
		OSSAH	0.33 (0.23)	x	x	0.69 *** (0.26)	x	x	x	0.65 ** (0.27)	0.69 ** (0.26)
	Constant		-	-2.48 *** (0.29)	-2.90 *** (0.35)	-2.79 *** (0.35)	-2.41 *** (0.29)	-2.54 *** (0.30)	-2.85 *** (0.55)	-3.25 *** (0.69)	-3.20 *** (0.41)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model

Table 7.6 Summary of results from modelling fragmented careers incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Fragmented careers								
			Education only	M2	M2 +Education					Full model	M3
	Ratio of professional workers	%	x	0.10 * (0.06)	0.11 * (0.06)	0.11 * (0.06)	0.11 * (0.06)	0.08 (0.06)	0.11 * (0.06)	0.09 (0.06)	0.09 (0.06)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	0.43 ** (0.19)	0.45 ** (0.20)	0.44 ** (0.19)	0.43 ** (0.19)	0.43 ** (0.19)	0.42 ** (0.19)	0.47 ** (0.20)	0.42 ** (0.19)
		Ns-Sec 5-7	x	0.38 * (0.23)	0.38 (0.24)	0.41 * (0.23)	0.39 * (0.23)	0.31 (0.23)	0.39 (0.23)	0.38 (0.25)	0.34 (0.23)

Explanatory variables			Fragmented careers								
			Education only	M2	M2 +Education					Full model	M3
	Importance of family life (ref: very interested)	Not interested or sure	x	0.44 * (0.25)	0.44 * (0.25)	0.46 * (0.25)	0.45 * (0.25)	0.52 * (0.27)	0.51 * (0.27)	0.49 * (0.28)	0.53 * (0.28)
		Quite interested	x	0.45 ** (0.21)	0.45 ** (0.21)	0.46 ** (0.22)	0.46 ** (0.21)	0.53 ** (0.22)	0.50 ** (0.22)	0.50 ** (0.24)	0.53 ** (0.23)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	0.59 *** (0.18)	0.59 *** (0.18)	0.58 *** (0.18)	0.59 *** (0.18)	0.55 *** (0.18)	0.58 *** (0.18)	0.56 *** (0.19)	0.56 *** (0.19)
		Stayers in and Lasting Movers to Escalators	x	0.31 * (0.16)	0.30 * (0.16)	0.31 * (0.16)	0.31 * (0.16)	0.31 * (0.17)	0.279 * (0.169)	0.289 * (0.17)	0.29 * (0.17)
Education	Number of spells (ref: one spell)	Multiple spells	1.05 *** (0.13)	x	x	x	x	1.07 *** (0.14)	x	0.69 *** (0.17)	0.64 *** (0.17)
	Timing	Age	0.11 *** (0.01)	x	x	x	x	x	0.11 *** (0.01)	0.08 *** (0.02)	0.07 *** (0.02)
	Constant		-	-2.35 *** (0.55)	-2.26 *** (0.58)	-2.47 *** (0.57)	-2.35 *** (0.56)	-2.57 *** (0.57)	-5.09 *** (0.68)	-4.54 *** (0.77)	-4.33 *** (0.71)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the models

Table 7.7 Summary of results from modelling lateral linear social mobility incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Lateral linear											
			Education only	M2	M2+ Education								Full Model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	-0.67 *** (0.19)	-0.66 *** (0.19)	-0.52 * (0.31)	-0.60 *** (0.20)	-0.62 *** (0.19)	-0.52 * (0.28)	-0.33 (0.20)	-0.58 ** (0.24)	-0.60 *** (0.20)	0.42 (1.42)	3.22 * (1.74)	2.68 (1.63)
		Part-timers	-0.12 (0.19)	-0.11 (0.19)	-0.06 (0.31)	-0.00 (0.20)	-0.03 (0.19)	0.12 (0.26)	0.10 (0.20)	-0.01 (0.22)	-0.08 (0.19)	3.00 ** (1.48)	5.31 *** (1.81)	4.88 ** (1.72)
		Self-employed	-0.12 (0.24)	-0.14 (0.24)	-0.09 (0.46)	-0.08 (0.25)	-0.06 (0.25)	-0.03 (0.34)	0.10 (0.25)	-0.12 (0.29)	-0.08 (0.25)	1.40 (1.70)	3.45 (2.12)	3.35 * (1.98)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 3 and 4	-0.56 *** (0.24)	-0.54 *** (0.24)	-0.53 *** (0.24)	-0.55 *** (0.25)	-0.56 *** (0.25)	-0.57 *** (0.25)	-0.53 *** (0.25)	-0.52 *** (0.25)	-0.57 *** (0.24)	-0.57 *** (0.25)	-0.48 * (0.26)	-0.49 * (0.26)
		Ns-Sec 5-7	-0.35 (0.24)	-0.32 (0.25)	-0.32 (0.25)	-0.42 * (0.25)	-0.39 (0.25)	-0.39 (0.25)	-0.32 (0.24)	-0.32 (0.25)	-0.36 (0.24)	-0.35 (0.24)	-0.34 (0.26)	-0.35 (0.26)
	Ability (Vocabulary)	Raw Vocabulary Test score	0.02 * (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 * (0.01)	0.02 * (0.01)	0.02 * (0.01)	0.02 * (0.01)	0.02 * (0.01)	0.02 * (0.01)	0.02 * (0.01)	0.02 (0.01)	0.02 (0.01)
Migration	Migration (ref: Stayers in Non-Escalators)	Complex Movers	-0.34 (0.21)	-0.35 (0.21)	-0.36 * (0.22)	-0.28 (0.22)	-0.34 (0.22)	-0.33 (0.22)	-0.31 (0.22)	-0.29 (0.22)	-0.34 (0.21)	-0.35 (0.21)	-0.26 (0.23)	-0.25 (0.22)
		Temporary Movers	0.37 * (0.23)	0.38 * (0.23)	0.38 * (0.23)	0.32 (0.23)	0.38 * (0.23)	0.40 * (0.23)	0.37 (0.23)	0.40 * (0.23)	0.38 * (0.23)	0.35 (0.23)	0.33 (0.24)	0.31 (0.24)

Explanatory variables			Lateral linear											
			Education only	M2	M2+ Education								Full Model	M3
Education	Field of study (ref: STEM)	COMB	x	x	x	-0.66 ** (0.31)	x	x	x	x	x	x	-0.57 * (0.32)	-0.58 * (0.32)
		LEM	x	x	x	-0.99 *** (0.24)	x	x	x	x	x	x	-0.97 *** (0.26)	-1.00 *** (0.25)
		OSSAH	x	x	x	-0.52 *** (0.18)	x	x	x	x	x	x	-0.42 ** (0.20)	-0.43 ** (0.19)
	Grade (ref: First or 2:1)	Third or pass	x	x	x	x	0.69 *** (0.24)	0.93 ** (0.36)	x	x	x	x	0.60 (0.39)	0.39 (0.25)
	Number of spells (ref: one spell)	Multiple spells	x	x	x	x	x	x	-1.02 *** (0.18)	-2.69 *** (0.74)	x	x	-3.26 *** (0.77)	-3.24 *** (0.77)
	Timing	Age	x	x	x	x	x	x	x	x	-0.02 0.02	0.06 (0.06)	0.21 *** (0.07)	0.20 *** (0.07)
	Number of spells* typology (ref: one spell*Stable)	Fragmented careers* Multiple spells	x	x	x	x	x	x	x	2.03 ** (0.79)	x	x	2.30 *** (0.85)	2.31 *** (0.85)
		Part-timers* Multiple spells	x	x	x	x	x	x	x	1.68 ** (0.80)	x	x	2.30 *** (0.87)	2.29 *** (0.87)
		Self-employed* Multiple spells	x	x	x	x	x	x	x	2.02 ** (0.86)	x	x	2.42 ** (0.97)	2.43 ** (0.97)
	Timing*	Fragmented* Age	x	x	x	x	x	x	x	x	x	-0.05 (0.06)	-0.16 **	-0.15 **

Explanatory variables			Lateral linear											
			Education only	M2	M2+ Education								Full Model	M3
	typology (ref: Stable)												(0.08)	(0.07)
		Part-timers* Age	x	x	x	x	x	x	x	x	x	-0.14 ** (0.07)	-0.23 *** (0.08)	-0.22 *** (0.08)
		Self-employed* Age	x	x	x	x	x	x	x	x	x	-0.07 (0.07)	-0.16 * (0.09)	-0.16 * (0.09)
	Constant		-1.50 *** (0.54)	-1.55 *** (0.56)	-1.62 ** (0.59)	-1.16 ** (0.55)	-1.68 *** (0.55)	-1.76 *** (0.55)	-1.42 ** (0.56)	-1.39 ** (0.57)	-1.10 * (0.65)	-2.70 ** (1.30)	-5.82 *** (1.62)	-5.38 *** (1.54)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model;

Table 7.8 Summary of results from modelling lateral non-linear social mobility incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Lateral Non-linear											
			Education only	M2	M2 + Education								Full Model	M3
Control	Career Typology (ref=Stable Careers)	Fragmented Careers	0.26 (0.21)	0.25 (0.22)	-0.07 (0.33)	0.22 (0.22)	0.49 (0.35)	0.24 (0.22)	0.08 (0.29)	0.34 (0.22)	0.46 * (0.27)	0.36 (0.22)	1.91 (1.74)	1.43 (2.01)	0.30 (0.41)
		Part-timers	0.48 **	0.45 **	0.60 *	0.43 *	0.23 (0.45)	0.43 *	0.10 (0.29)	0.53 **	0.63 **	0.53 **	1.10 (1.76)	-0.07 (2.05)	-0.19 (0.50)

Explanatory variables			Lateral Non-linear												
			Education only	M2	M2 + Education									Full Model	M3
			(0.22)	(0.22)	(0.31)	(0.23)		(0.23)		(0.23)	(0.26)	(0.23)			
	Ratio of professional workers	%	0.13 ** (0.07)	0.13 * (0.07)	0.13 * (0.07)	0.13 * (0.07)	0.14 ** (0.07)	0.13 * (0.07)	0.13 * (0.07)	0.14 ** (0.07)	0.14 ** (0.07)	0.13 * (0.07)	0.13 ** (0.07)	0.13 * (0.07)	0.13 * (0.07)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	0.39 * (0.22)	0.34 (0.23)	0.35 (0.23)	0.39 * (0.23)	0.41 * (0.23)	0.38 * (0.23)	0.41 * (0.23)	0.38 * (0.23)	0.37 * (0.22)	0.38 * (0.22)	0.39 * (0.22)	0.39 * (0.24)	0.39 * (0.23)
Education	Institution (ref: post 92)	Old universities	x	-0.39 * (0.21)	-0.74 * (0.42)	x	x	x	x	x	x	x	x	-0.72 * (0.43)	-0.36 (0.22)
	Field of study (ref: STEM)	LEM	x	x	x	0.52 ** (0.24)	0.46 (0.41)	x	x	x	x	x	x	0.24 (0.43)	0.27 (0.42)
	Field of study *typology (ref: one STEM*Stable)	Part-timers* LEM	x	x	x	x	1.13 * (0.66)	x	x	x	x	x	x	1.19 * (0.68)	1.28 * (0.67)
	Grade* typology (ref: First or 2:1*Stable)	Part-timers* Pass or third	x	x	x	x	x	x	1.52 * (0.91)	x	x	x	x	1.17 (0.93)	1.32 (0.92)
	Constant		-3.14 *** (0.63)	-2.94 *** (0.64)	-2.81 *** (0.66)	-3.34 *** (0.64)	-3.41 *** (0.68)	-3.02 *** (0.64)	-2.84 *** (0.66)	-3.15 *** (0.63)	-3.28 *** (0.64)	-2.51 *** (0.75)	-3.65 ** (1.72)	-3.01 (1.95)	-2.86 *** (0.72)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the models

Table 7.9 Summary of results from modelling upward linear social mobility incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Upward Linear											
			Education only	M2	M2 + Education								Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	-0.57 ** (0.27)	-0.58 ** (0.27)	-0.31 (0.35)	-0.60 ** (0.27)	-0.61 ** (0.27)	-0.70 ** (0.32)	-0.91 *** (0.28)	-0.58 * (0.32)	-0.66 ** (0.28)	0.34 (1.30)	-1.44 (1.47)	-0.50 (0.45)
		Part-timers	-0.81 *** (0.29)	-0.80 *** (0.29)	-0.47 (0.36)	-0.94 *** (0.30)	-0.88 *** (0.29)	-0.69 ** (0.33)	-1.04 *** (0.30)	-1.04 *** (0.34)	-0.86 *** (0.29)	-1.25 (1.38)	-2.04 (1.58)	-0.59 (0.45)
	Industry Sector (ref: Tertiary)	Secondary	-0.39 ** (0.17)	-0.39 ** (0.17)	-0.39 ** (0.18)	-0.38 ** (0.18)	-0.36 ** (0.18)	-0.36 ** (0.18)	-0.36 ** (0.18)	-0.37 ** (0.18)	-0.39 ** (0.17)	-0.40 ** (0.17)	-0.33 * (0.18)	-0.33 * (0.18)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 5-7	0.42 * (0.21)	0.43 ** (0.22)	0.44 ** (0.22)	0.41 * (0.21)	0.44 ** (0.22)	0.43 ** (0.22)	0.38 * (0.22)	0.39 * (0.22)	0.42 * (0.21)	0.44 ** (0.22)	0.39 * (0.23)	0.42 * (0.23)
Migration	Migration (ref: Stayers in Non-Escalators)	Temporary Movers	-0.79 (0.53)	-0.83 (0.53)	-0.80 (0.53)	-0.80 (0.53)	-0.85 (0.53)	-0.86 (0.54)	-0.86 (0.54)	-0.95 * (0.55)	-0.81 (0.53)	-0.84 (0.53)	-0.99 * (0.57)	-1.03 * (0.56)
	Migration* typology (ref: Stayers in Non-escalators * Stable)	Fragmented careers* Stayers in and Lasting Movers to Escalators	0.70 * (0.41)	0.72 * (0.41)	0.71 * (0.41)	0.66 (0.41)	0.69 * (0.41)	0.67 (0.41)	0.77 * (0.41)	0.78 * (0.41)	0.70 * (0.41)	0.71 * (0.41)	0.74 * (0.42)	0.74 * (0.42)
	Field of study (ref: STEM)	OSSAH	x	x	x	0.40 ** (0.18)	x	x	x	x	x	x	0.32 (0.19)	0.31 (0.19)

Explanatory variables			Upward Linear											
			Education only	M2	M2 + Education								Full model	M3
	Grade (ref: First or 2:1)	Third or pass	x	x	x	x	-0.61 * (0.28)	-0.64 (0.41)	x	x	x	x	-0.52 (0.43)	-0.53 (0.42)
	Number of spells (ref: one spell)	Multiple spells	x	x	x	x	x	x	0.74 *** (0.15)	1.33 *** (0.31)	x	x	1.45 *** (0.36)	1.28 *** (0.32)
	Institution* typology (ref: post 92*Stable)	Fragmented* Old	x	x	-0.69 * (0.41)	x	x	x	x	x	x	x	-0.63 (0.43)	-0.64 (0.43)
	Grade* typology (ref: First or 2:1*Stable)	Part-timers* 2:2	x	x	x	x	x	-0.80 * (0.48)	x	x	x	x	-0.95 * (0.50)	-0.90 * (0.50)
	Number of spells* typology (ref: one spell* Stable)	Fragmented careers* Multiple spells	x	x	x	x	x	x	x	-0.96 ** (0.40)	x	x	-1.01 ** (0.46)	-0.99 ** (0.41)
		Self-employed* Multiple spells	x	x	x	x	x	x	x	-0.96 * (0.55)	x	x	-1.19 * (0.68)	-0.85 (0.56)
	Constant		-0.58 ** (0.23)	-0.51 ** (0.26)	-0.69 ** (0.29)	-0.70 *** (0.25)	-0.48 ** (0.25)	-0.47 * (0.27)	-0.68 *** (0.24)	-0.74 *** (0.24)	-1.08 *** (0.40)	-1.54 (1.18)	0.67 (1.35)	-0.84 ** (0.36)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the models

Table 7.10 Summary of results from modelling upward non-linear social mobility incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Upward non-linear												
			Education only	M2	M2 + Education									Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	0.90 ** (0.31)	0.90 ** (0.31)	0.50 (0.38)	0.89 *** (0.31)	1.03 *** (0.39)	0.89 *** (0.31)	0.99 *** (0.36)	0.68 *** (0.32)	0.62 * (0.35)	0.82 *** (0.31)	-2.98 * (1.53)	-3.72 * (1.90)	-3.97 ** (1.63)
		Part-timers	0.20 (0.34)	0.19 (0.34)	-0.34 (0.43)	0.13 (0.35)	0.06 (0.53)	0.18 (0.34)	0.00 (0.40)	0.05 (0.35)	-0.17 (0.39)	0.15 (0.34)	-3.99 ** (1.62)	-4.96 ** (2.00)	-4.81 *** (1.70)
	Ratio of professional workers	%	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.19 *** (0.07)	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.21 *** (0.07)	-0.21 *** (0.07)	-0.19 *** (0.07)	-0.19 *** (0.07)	-0.22 *** (0.07)	-0.22 *** (0.07)
	Migration* typology (ref: Stayers in Non-Escalators * Stable)	Fragmented careers* Temporary Movers	-1.22 * (0.72)	-1.23 * (0.72)	-1.21 * (0.73)	-1.25 * (0.72)	-1.32 * (0.73)	-1.21 * (0.72)	-1.22 * (0.72)	-1.17 (0.72)	-1.18 (0.72)	-1.19 * (0.72)	-1.38 * (0.73)	-1.42 * (0.75)	-1.34 * (0.74)
Education	Institution (ref: post 92)	Old universities	x	-0.15 (0.20)	-1.03 ** (0.48)	x	x	x	x	x	x	x	x	-1.02 ** (0.47)	-0.99 ** (0.47)
	Field of study (ref: STEM)	COMB	x	x	x	0.29 (0.32)	0.96 (0.59)	x	x	x	x	x	x	0.94 (0.62)	0.26 (0.32)
		LEM	x	x	x	0.45 * (0.23)	0.76 ** (0.38)	x	x	x	x	x	x	0.73 * (0.43)	0.46 * (0.24)
	Number of spells (ref: one spell)	Multiple spells	x	x	x	x	x	x	x	0.52 *** (0.16)	0.17 (0.38)	x	x	0.83 * (0.45)	0.65 ** (0.20)

Explanatory variables			Upward non-linear												
			Education only	M2	M2 + Education									Full model	M3
	Timing	Age	x	x	x	x	x	x	x	x	x	0.02 (0.02)	-0.14 ** (0.07)	-0.18 * (0.08)	-0.18 ** (0.07)
	Institution* typology (ref: post 92*Stable)	Fragmented* Old	x	x	1.06 * (0.56)	x	x	x	x	x	x	x	x	1.14 ** (0.55)	1.14 ** (0.55)
		Part-timers* Old	x	x	1.60 ** (0.62)	x	x	x	x	x	x	x	x	1.63 ** (0.63)	1.55 ** (0.61)
	Timing* typology (ref: Stable)	Fragmented*Age	x	x	x	x	x	x	x	x	x	x	0.17 ** (0.07)	0.20 ** (0.08)	0.19 *** (0.07)
		Part-timers*Age	x	x	x	x	x	x	x	x	x	x	0.19 *** (0.07)	0.19 ** (0.09)	0.19 *** (0.07)
	Constant		-0.15 (0.61)	-0.11 (0.62)	0.13 (0.64)	-0.29 (0.62)	-0.35 (0.65)	-0.11 (0.62)	-0.13 (0.65)	-0.14 (0.62)	-0.03 (0.62)	-0.58 (0.70)	2.92 * (1.53)	3.91 *** (1.84)	3.97 *** (1.63)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model

Table 7.11 Summary of results from modelling downward social mobility incorporating characteristics of education

Source: British Cohort Study 1970 (analytical sample)

Explanatory variables			Downward										
			Education only	M2	M2 + Education							Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Part-timers	1.18 ** (0.45)	1.08 (0.69)	1.32 *** (0.46)	1.24 *** (0.45)	1.31 * (0.52)	1.28 *** (0.45)	1.28 *** (0.47)	1.23 *** (0.45)	-0.12 (2.24)	0.06 (2.65)	0.17 (2.61)
		Self-employed	0.41 (0.58)	1.39 * (0.75)	0.53 (0.58)	0.48 (0.58)	0.43 (0.69)	0.53 (0.58)	0.04 (0.65)	0.49 (0.58)	-3.78 (2.48)	-1.11 (3.03)	-1.57 (2.89)
	Gender (ref: Female)	Male	0.42 * (0.25)	0.42 * (0.25)	0.32 (0.26)	0.39 (0.25)	0.38 (0.25)	0.44 * (0.25)	0.43 * (0.25)	0.44 * (0.25)	0.46 * (0.25)	0.29 (0.27)	0.34 (0.26)
Migration	Migration (ref: Stayers in Non-Escalators)	Temporary Movers	0.93 (0.64)	0.95 (0.65)	0.93 (0.64)	0.93 (0.64)	0.87 (0.64)	0.90 (0.64)	0.93 (0.64)	0.91 (0.64)	1.00 (0.65)	1.12 ** (0.67)	1.12 * (0.67)
	Migration* typology (ref: Stayers in Non-Escalators * Stable)	Part-timers *Temporary Movers	-1.48 * (0.87)	-1.41 (0.88)	-1.62 * (0.87)	-1.53 * (0.87)	-1.45 * (0.87)	-1.49 * (0.87)	-1.52 * (0.87)	-1.50 * (0.86)	-1.60 * (0.87)	-1.64 * (0.90)	-1.65 * (0.90)
Education	Institution (ref: post 92)	Pre-92 universities	0.49 * (0.28)	0.73 (0.65)	x	x	x	x	x	x	x	0.81 (0.68)	0.78 (0.66)
	Field of study (ref: STEM)	OSSAH	x	x	-0.66 ** (0.28)	x	x	x	x	x	x	-0.50 (0.30)	-0.54 * (0.30)
	Institution* typology (ref: post 92*Stable)	Self-employed*Old	X	-1.89 ** (0.90)	x	x	x	x	x	x	x	-1.91 * (0.97)	-1.61 * (0.92)

Explanatory variables			Downward										
			Education only	M2	M2 + Education							Full model	M3
	Number of spells*typology (ref: one spell*Stable)	Self-employed* Multiple spells	x	x	x	x	x	x	1.57 * (0.93)	x	x	1.01 (1.08)	0.94 (1.07)
	Timing*typology (ref: Stable)	Self-employed*Age	x	x	x	x	x	x	x	x	0.18 * (0.11)	0.11 (0.13)	0.12 (0.13)
	Constant		-3.17 *** (0.40)	-3.42 *** (0.55)	-2.73 *** (0.40)	-3.05 *** (0.39)	-3.03 *** (0.44)	-2.88 *** (0.38)	-2.83 *** (0.38)	-2.40 *** (0.64)	-0.60 (2.00)	-1.77 (2.34)	-1.82 (2.31)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model

7.3.1 Degree Grade

The results show little evidence in support of the importance of the degree grade as a predictor of social mobility trajectories, and the results are somewhat counterintuitive and ambiguous. As shown in Table 8.3, and 8.4 the degree grade exhibits some degree of statistical significance in explaining the stable and the part time careers only. As shown in Table 8.8, and 8.9, the degree grade plays a different role in different career types for lateral non-linear, upward linear. As shown in Table 8.7 the role of degree grade shows only statistically significant main effect, independent of the career type, in the case of lateral linear social mobility.

Those with lower grades, as compared to those with the highest grade, are more likely to follow stable careers, as shown in Table 8.3, which in turn are most likely to be lateral linear, as shown in Table 8.7. As in the lateral linear social mobility trajectory model the role of the degree grade does not depend of the career type, the results indicate that there is an advantage associated with lower class degrees. Assuming that higher grade is indicative of the greater level of graduates' ability, this suggests that that the most able, instead of following the standard archetype, make the most of existing opportunities, by adjusting to the changing nature of the graduate labour market and exploring alternative career forms. At the same time, the least able might have to cohere with the most conventional forms of employment, as the stability, inherent in the continuous full-time paid employment, is associated with lower grades. However, as the degree grades are likely to depend on the subject studied (Sabot and Wakeman-Linn 1991), these results should be interpreted with caution.

The role of the degree grade is significantly different depending on the career type only for two types of social mobility trajectories: lateral non-linear, and upward linear, as shown in Tables 8.8 and 8.9. As also shown in Figure 8.1, in the case of lateral non-linear social mobility, the higher degree grade is beneficial for those on stable and those on fragmented careers, as the higher degree grade increases graduate's probability of experiencing lateral non-linear social mobility. The results show opposite pattern for the part-timers, as in their case lower degree grade is associated

with higher probability of experiencing lateral non-linear social mobility. Little difference by degree grade in the context of self-employed careers is shown in Figure 8.1.

In terms of upward linear social mobility trajectories, the gradient in probability by degree grade is less clear. As shown in Figure 8.1, graduates with lower second degree grades are more likely to experience upward linear social mobility, especially is they have fragmented or self-employed careers. This advantage is much lower for those on stable careers. At the same time, there is a disadvantage associates with third of pass degrees, which is the most visible for the self-employed. Also in this case, the part-timers appear to be an exception, as for this group the advantage is associated with first or upper-second degree grade.

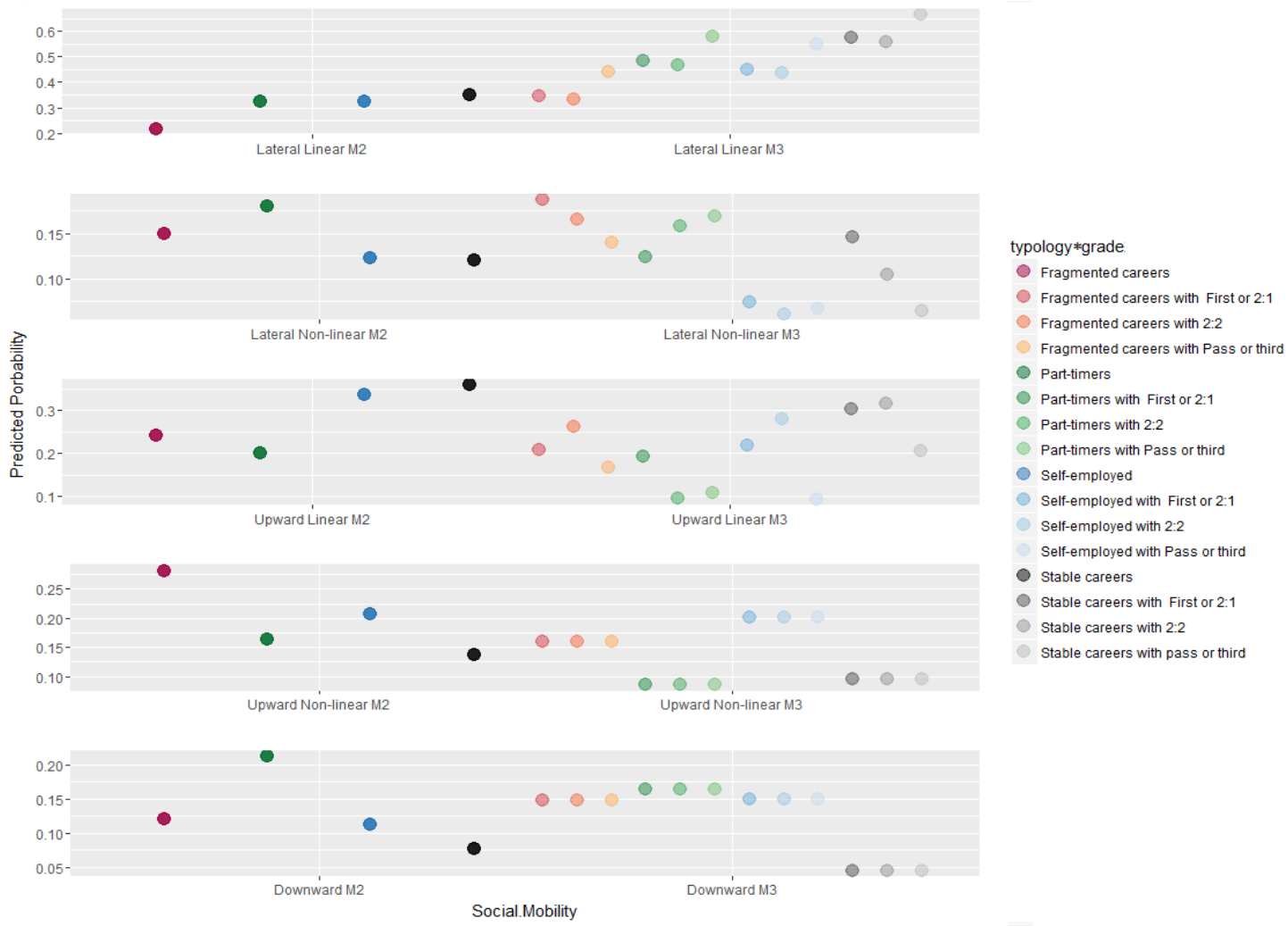

Figure 7.1 Predicted probability of social mobility by career type and degree grade

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

7.3.2 Field of Study

The small size of the analytical sample limits the investigation of the role of the field of study in the career types. In the case of lateral linear, upward linear and downward social mobility, the inclusion of the interaction terms between field of study and career type provides unreliable results, and these coefficients have been excluded from the tables presented in the above section, as well as those presented in Appendix J. Nevertheless, as shown in Tables 8.3, 8.4, and 8.5 field of study contributes significantly to the explanation of all career types with the exception of fragmented careers. As shown in Tables 8.7, 8.9, 8.10 field of study also has a significant effect on the social mobility trajectory in the case of lateral linear, upward linear, and downward trajectories. As shown in Table 8.8, field of study plays different role depending on the career type only for lateral non-linear social mobility trajectories.

Graduates on part-time career with LEM degrees, and graduates on self-employed career with COMB degrees, are the two most likely groups to experience lateral non-linear social mobility. At the same time, there is little variation in probability of exercising lateral non-linear social mobility by field of study for graduates on fragmented and stable careers.

Furthermore, as shown in Figure 8.2, LEM, and to some extent also COMB, degree graduates are more likely to have non-linear social mobility trajectories in general. It can be seen that upward non-linear social mobility is associated with the COMB and LEM degrees, and this effect is not dependent on the career type. In this case, there is an advantage associated with LEM degrees, especially for the self-employed and those on fragmented carers. As LEM fields appear to offer non-linear social mobility, these subjects can be considered as less secure and requiring a greater level of flexibility. However, LEM graduates are compensated for this with higher pay (Walker and Zhu 2011). In turn, this higher pay might enable LEM graduates to take 'career breaks', which are indicative of the lack on linearity.

An alternative interpretation is that work experience at all levels of hierarchy is valued in LEM fields more than in other fields. The non-linear social mobility trajectories are characterised by spells of underemployment, which could indicate that work in LEM sectors requires and rewards work experience obtained on all occupational levels, as it demonstrates better understating of the industry or the labour market in general.

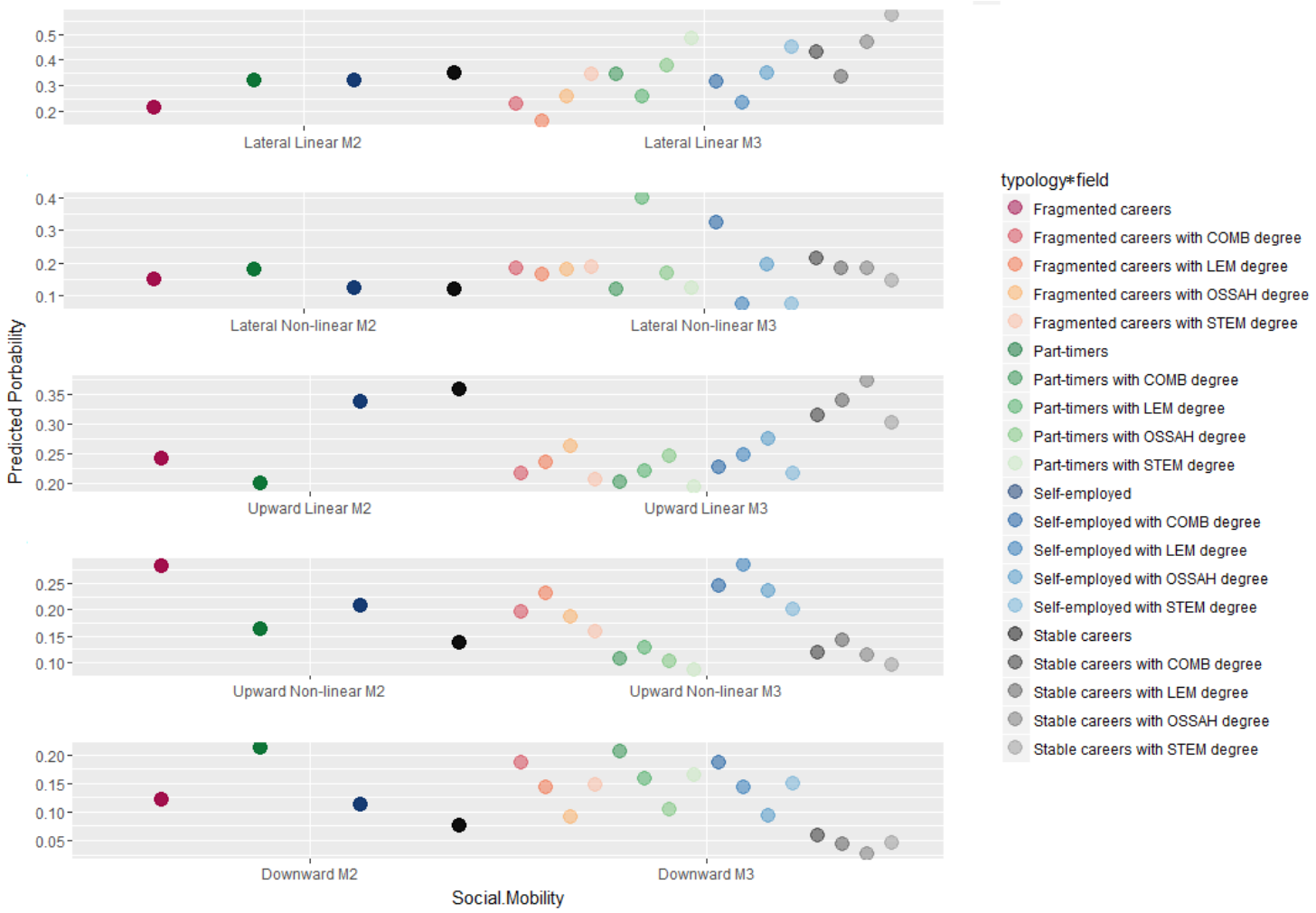

Figure 7.2 Predicted probability of social mobility by career type and field of study

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

In contrast, as shown in Figure 8.2, STEM degrees offer the highest degree of job security, stability, and linearity. The results show that STEM graduates are more likely than graduates from any other fields of study to follow the most privileged - lateral linear - social mobility trajectories, regardless of their career type. STEM graduates are also the most likely to have stable careers. This might explain why the capacity of STEM degrees to deliver social mobility has not been clear in previous studies (Britton et al. 2017). Assuming the lateral linear social mobility is the most desirable, STEM degrees could be considered as the most highly regarded by the labour market.

The results with respect to OSSAH degrees indicate that they have the greatest capacity to deliver social mobility. As shown in Tables 8.9 and 8.11, OSSAH graduates are the most likely to have upward linear social mobility, and the least likely to have downward social mobility, regardless of the career type. This might indicate that OSSAH degrees not only can facilitate upward linear progression, but can also protect graduates from downward mobility. At the same time, as shown in Tables 8.3, 8.4, and 8.5, OSSAH graduates are also less likely than STEM graduates to have stable careers, and are more likely to have part-time or self-employed careers. Therefore, while STEM degrees might be the best choice for those who value security in the form of employment continuity, OSSAH degrees might offer better opportunities for those who reject such conventional careers in favour of greater flexibility.

7.3.3 Institution

As shown in Table 8.9, 8.10, and 8.11 institution plays a different role in the different career types for three types of social mobility trajectories: upward linear, upward non-linear and downward. However, the results are also ambiguous in this case. As shown in Table 8.9 there is an advantage gained by degrees from Old institutions for those on stable careers, as these graduates are the most likely to have upward linear social mobility trajectories. There are little differences in the probability of upward non-linear and downwards social mobility for graduates on stable careers. This indicates that degrees from Old institutions are recognised by employers and can best deliver social mobility within the traditional career paradigm.

While old universities can better prepare graduates for paid employment within the stable career paradigm, their capacity to offer an advantage for the non-stable career graduates is less clear. As shown in Figure 8.3, the degrees from post-92 institutions can better facilitate upward linear social mobility of fragmented career graduates, and degrees from Pre-92 institutions can better facilitate their upward non-linear social mobility. As shown in Table 8.11, the latter are also the least likely to result in downward mobility. For the part-timers, the effect of the institution is even more blurry. Post-92 and old institutions are likely to offer an advantage in terms of the upward linear and non-linear social mobility, respectively. At the same time, Pre-92 institutions are most likely to result in downward social mobility for part-timers. The result with respect to self-employed indicate that old institutions protect them from downward mobility and facilitate their upward linear social mobility. However, post-92 institutions are most likely to facilitate the non-linear social mobility of the self-employed.

As shown in Table 8.8, in the case of lateral non-linear social mobility, the effect of the institution is not dependent on career type. The results show that the post-92 institutions are most likely to deliver lateral non-linear social mobility, irrespective of the career type. Institution does not play a role in the lateral linear social mobility trajectories, rendering stable career graduates most likely to experience this social mobility type, regardless of their degree awarding institutions.

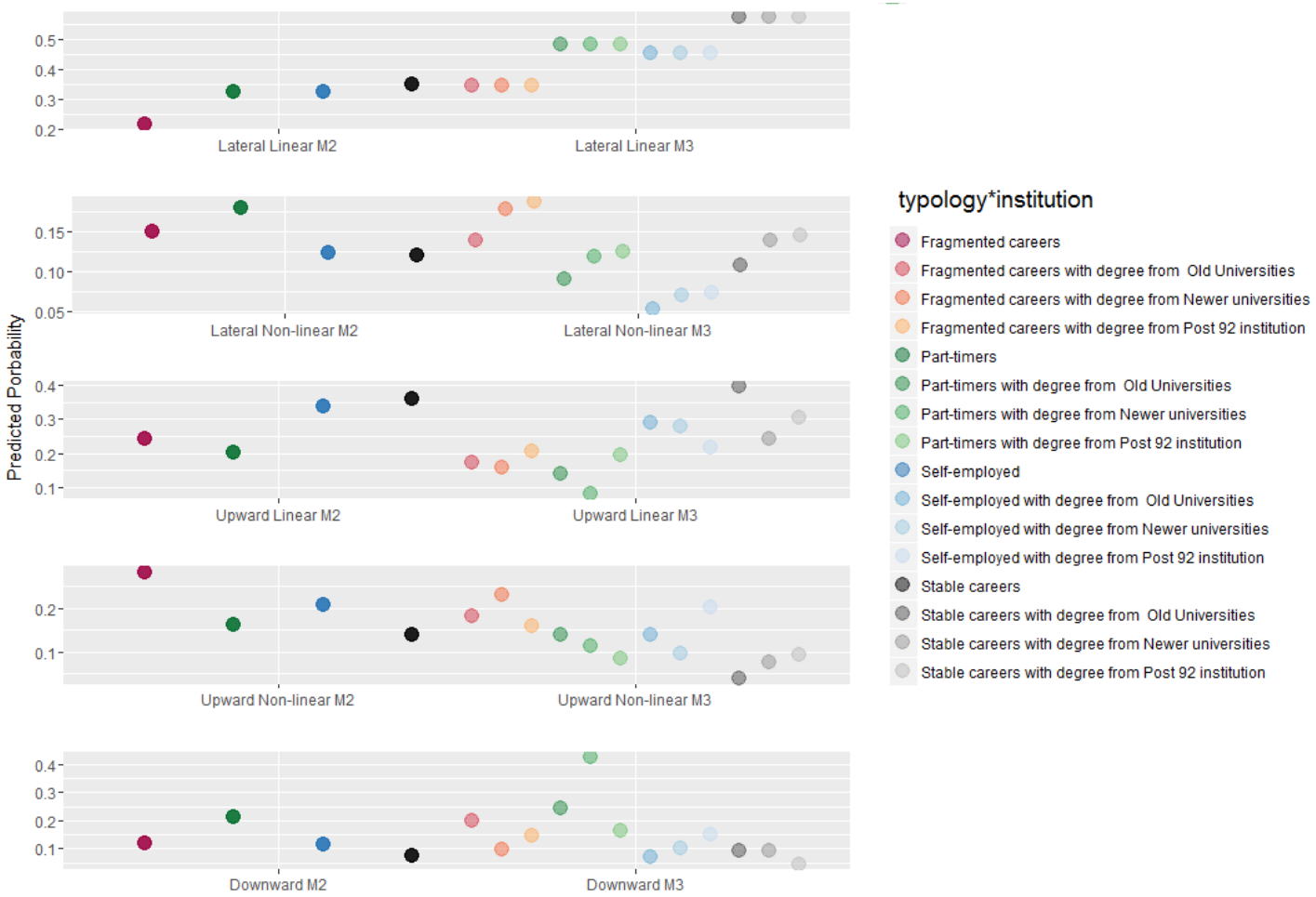

Figure 7.3 Predicted probability of social mobility by career type and institution

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

7.3.4 Frequency of Educational Spells

The longitudinal characteristics of education are partially inherent in the career typology by design. For example, as shown in Table 8.3 and 8.6, stable-career graduates are more likely to experience education in one continuous spell and are likely to transition out of education earlier. In contrast, graduates following fragmented careers are more likely to have multiple spells of education, and to be older at the most recent transition out of education. Nevertheless, the effect of frequency of spells and the timing of education are incorporated into the models, in order to test for the independent of the career type effects of education.

As evidenced by statistically significant interaction term between frequency of educational spells and career type and shown in Tables 8.7, 8.9, and 8.11 the role of this educational characteristic is different in the different types of career for three types of social mobility trajectories: lateral linear, upward linear, and downward. As shown in Table 8.10, the effect of frequency of educational spells is not dependent on the career type in the case of upward non-linear social mobility, and frequency of spells does not play a significant role for lateral non-linear social mobility, as shown in Table 8.8.

The results show that one spell of education is sufficient to remain above the glass floor (Milburn et al. 2015, Reeves and Howard 2013), while more than one spells might be required in order to climb up the social class ladder. In the case of lateral linear social mobility, multiple spells of education, as opposed to education being experienced in one continuous spell, reduce the probability of graduates having lateral linear mobility, as shown in Figure 8.4. While this difference is the highest, for stable careers, the effect is consistent across all career types. Furthermore, those who have more than one spell of education were more likely to experience downward social mobility, unless they followed self-employed careers. Thus, experiencing education in one continuous spell is more likely to facilitate the most privileged social mobility type, and one spell of education is sufficient for this.

Figure 7.4 Predicted probability of social mobility by career type and frequency of educational spells
Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

At the same time, both linear and non-linear upward social mobility, is more likely to be experienced by graduates who have multiple spells of education. Similarly, in this case, the effect is consistent across the career types, but multiple spells of education have the advantage of highest magnitude for stable career graduates. This indicates that, in order to climb the social class ladder, more than one spell of education might be required. This results provides evidence in favour of institutionalised life-long learning (Tuijnman and Boström 2002) only for those who entered the labour market via occupations related to lower social classes.

7.3.5 Timing of Education

As shown in Tables 8.7, 8.9, and 8.11 the timing of the most recent transition out of education also plays a different role in different types of careers for three types of social mobility trajectories: lateral linear, upward non-linear, and downward, as evidenced by statistically significant interactions. At the same time, it has no effect on the propensity to experience lateral non-linear, or upward linear social mobility, as shown in Tables 8.8 and 8.10.

As shown in Figure 8.5, postponed transitions out of education are only consistently beneficial for fragmented career graduates. The results show that an additional year at last transition out of education increases graduates' likelihood of experiencing lateral linear and upward non-linear social mobility, but decreases their likelihood of experiencing downward social mobility. Later transitions out of education are the least beneficial for self-employed career graduates. Although they increase their likelihood of experiencing lateral linear social mobility, they can significantly decrease their likelihood of experiencing upward non-linear social mobility, and increase the likelihood of downward social mobility.

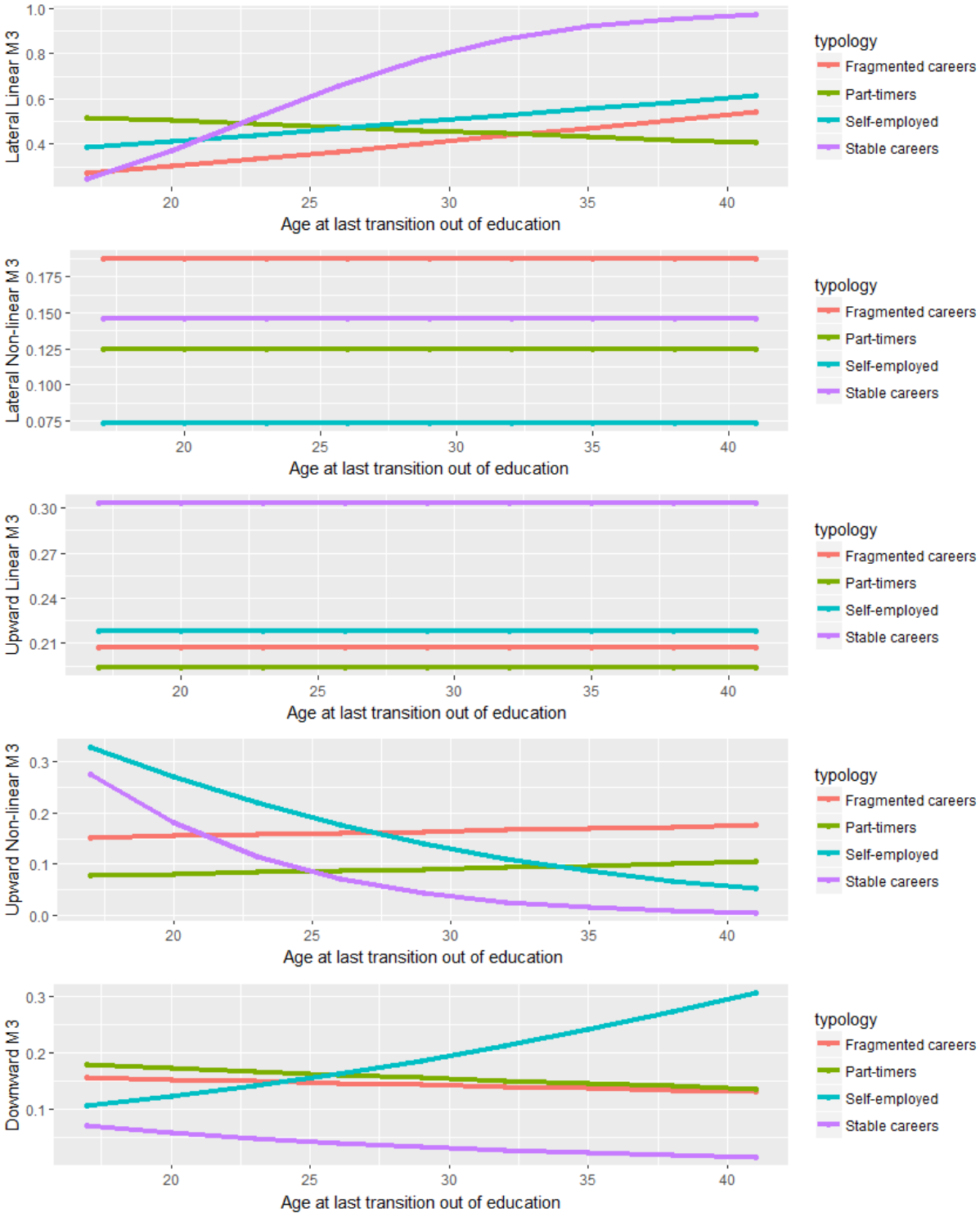

Figure 7.5 Predicted probability of social mobility by career type timing of education

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

7.4 Concluding thoughts

Educational characteristics tested in this study can provide some explanation as to the graduates' propensity to experience certain social mobility trajectories. In particular, the field of study sheds more light on this issue. The results show that the social mobility of LEM graduates' is most likely non-linear, while STEM degrees offer the highest degree of job security, stability, and linearity, and are most likely to facilitate lateral linear social mobility, as graduates with these degrees are most likely to have stable careers and lateral linear social mobility trajectories. OSSAH degrees are most likely to facilitate upward linear and prevent from downward mobility. Furthermore, the results point to some advantage related to the degree from an Old University, especially for those on stable careers. However, the results with respect to degree grade are somewhat counterintuitive, and might indicate that higher degree grades give graduates more freedom to explore less conventional careers, while those with lower grades are more inclined to have security inherent in stable careers.

Nevertheless, the results offer limited support for education acting as an equaliser, as parental social class remains a significant predictor in the case of three out of five social mobility trajectory types. The results show that those from the less privileged background are more likely to climb up the career ladder. At the same time, those from the most privileged background are more likely to enter the highest professional or managerial jobs early and remain above the glass floor (Milburn et al. 2015, Reeves and Howard 2013) throughout the duration of their career. Those from lower managerial and professional backgrounds are more likely than the most privileged to have lateral non-linear social mobility trajectories. These results are persistent, even when education is accounted for, which offers limited support for the theory that university education acts as an equaliser. Instead, they indicate that the capacity of education to modify the disadvantage and the advantage gained by originating from particular parental background is limited, providing support for the EMI hypothesis.

Moreover, longitudinal characterises of education, such as the number of spells and timing of the last transition out of education contribute to explaining the relationships

between the career type and social mobility trajectories, although they do not fully explain it. The effect of career type, independent of the way in which education was experienced, remains significant predictor of social mobility in model label throughout this thesis as M3 for lateral linear and upward non-linear social mobility trajectories. In the remaining three social mobility trajectory models, the effect of educational characteristics is dependent on the career type. This further indicates that the type of career can contribute to understanding social mobility trajectories, and may be seen as the missing link in the contemporary social mobility research.

Chapter 8 Conclusion

"[…] the personal dignity of the modern worker has been enhanced by the evolution toward individualist exclusion, even though his subordination to capital remains a central fact of life."

(Levine 2006, p.138)

In contemporary society, social inequalities manifest themselves in more elaborate ways. Social mobility can be achieved via numerous routes, depending on - but not limited to - employment, education, and migration decisions. As the range of these options widens, their meritocratic disguise may be harder to detect and uncover than it was in the past. The assumptions that the facilitating mechanisms which applied in the past will continue to apply indefinitely no longer suffice, and the precarious nature of this social mobility therefore requires continuous revaluation and re-examination.

This novel, thorough, rigorous, comprehensive, and in-depth investigation of graduates' social mobility trajectories, incorporating both longitudinal and static aspects of their life course from birth until the age 42 makes important contributions to understanding the mutually complementary nexus between social mobility and boundaryless careers. This is achieved by recognising the complex nature of social mobility, and investigating the extent to which the social mobility trajectories can be explained by the career type, alongside the attributes and circumstances observed in graduates' early life, their migration histories, and the characteristics of their higher education. The findings from this investigation make several important contributions to the literature on social mobility.

Although the conclusions reached in each of the chapters have been summarised at the end of the specific chapters, there are several conclusions which stretch across all empirical chapters. These are reiterated in the subsections of this chapter, which is

followed by the consideration of policy and practice implication, discussion of the limitations of this study, and the suggestions for further research.

8.1 Social mobility is more complex than simply moving up or down

Many social mobility studies compare individual's position at two time points only, or compare one's social class with that of their parents, focusing the attention on the outcome rather than the process by which the outcome is achieved, and neglecting the complexity and multi-directionality of this process. This study addresses the above areas of concern, by investigating the working lives of the sample of graduates between age 16 and age 42. This approach addresses the above-described gap by focusing on the whole career, rather than selected time points, and thereby incorporating periods of economic inactivity.

As shown in Chapter 5, measuring one's social class could give very different results, depending on the time point at which it is measured, even during their occupational maturity stage. Thus, measuring the change in social class over time, rather than one's social position at a given point in time, furthers the understanding of social mobility dynamics and contributes to the current knowledge regarding the mechanisms behind social stratification. For example, cross-sectional approach would not be able to detect differences between some of the graduates who had upward linear and those who had lateral linear social mobility, if their social class was measured at age only 42. Nevertheless, the former group had much more turbulent paths, more temporary jobs, and spent substantial amount of time in occupation related to lower social class, in order to get to the same position.

Furthermore, not all graduates obtain their first job in the same social class, and not all therefore have equal chances of moving up, staying at the same level, or moving down. Thus, upward social mobility may not be the most desirable, and social mobility trajectories cannot be directly compared. Furthermore, the narrow focus on only upward or downward mobility can exclude substantial groups who originate in high

social classes and do not experience changes in their social class over time. Since these 'glass floor' trajectories are the most advantaged, as shown in Chapter 5, such narrow focus can result in misleading conclusions.

Lastly, the initial expectation formed on the basis of previous studies was that upward social mobility can be associated with success, while downward social mobility would be associated with the lack of it. However, the ranking of social mobility trajectories proved less straightforward. As shown in Chapter 5, downward social mobility graduates spent on average comparable period of time in higher professional and managerial occupations as graduates allocated to all other remaining types. This points to the importance of longitudinal studies, in favour of the additional insights which can be gained from measuring sequencing and timing of individual's social class, as well as its change over time.

8.2 Career type as missing link in social mobility research

As discussed in Chapter 2, empirical social mobility studies often focus only on those in full-time paid employment, while those who do not meet this criterion, are sometimes labelled as outliers and discarded from the analytical samples (Mulhall 2011). Similarly, those who are not in active employment at the time of the study, due to career breaks, unemployment, maternity/paternity leave etc., are also likely to be excluded. This makes comparison between individuals straightforward, because the variability due to different forms of employment and due to passing time can be eliminated, and individuals can be more easily allocated to social classes, and these classes are more directly comparable across the members of the sample analysed.

However, as discussed in Chapter 2, the careers are thought to have become more boundaryless (Arthur, Khapova, and Wilderom 2005, Hess, Jepsen, and Dries 2012), and therefore the prevalence of less conventional careers is likely to have increased in more recent cohorts. Especially in the era of life course destandardisation (Brückner and Mayer 2005, Elzinga and Liefbroer 2007), limiting the analytical sample to stable

careers under the assumptions that the mechanisms which operate in these careers extrapolate to everyone, is likely to lead to misleading results.

As shown in Chapter 5, the average time spend in full-time paid employment as compared to time spent in other economic activities is the highest in all career types. Thus, it could be tempting to consider all career types as similar, despite the clear differences in timing and sequencing of these employment spells. The results from this study show that the stable career assumptions lead to great oversimplification of the reality experienced by the graduates in this cohort. As shown in section 5.3, only 31% of graduates in the analytical sample exhibits such patterns. The remainder works part-time for the substantial part of their careers (25%), spend considerable amount of time self-employed (12%), or have fragmented careers (33%), in which full-time paid employment is intertwined with looking after family, education in later life, unemployment or inactivity. Thus, these less conventional career paths should not be considered as rare or extreme cases, but as commonly-experienced reality by the majority of graduates.

Perhaps more importantly these career types are significantly related to social mobility trajectories, and remain significant despite the attempts to explain these relationships in subsequent chapters. Table 9.1 and Figure 9.1 summarise the results from these investigations. As shown in Table 9.1, some of these relationships remain statistically significant even in the final models. Furthermore, the role of the facilitating factors - migration and higher education - is different in different types of careers, even in the models where the relationship between career type and social mobility trajectory is not statistically significant. As shown in Figure 9.1, although the stable careers are consistently more likely than other types to be lateral linear or upward linear, and less likely to be downward, there is substantial variability in outcomes across the career types. These analyses confirm that different career types operate on different principles and the processes by which the priorities are negotiated vary according to career type. Thus, focusing on stable careers only excludes substantial part of graduate population, despite the contributions to better understanding of graduates' progression (or lack of

it) through the social classes, which incorporating these less conventional careers could make.

8.3 Parental social class has a significant and persistent effect

The assumption of meritocracy, which underpins many social mobility studies, asserts that one's propensity to become successful is solely based on their ability and effort. Thus, there is an implicit assumption that lack of occupation related to professional or managerial social class is related to one's inabilities or to insufficient effort made. This study considers one's educational qualifications as a proxy of their ability, and their migration trajectories as an indicator of effort.

However, the results of the analysis conducted in this thesis show limited support for meritocratic selection in graduate labour market, and little support for education being the equalising force of later life outcomes. Table 9.2 summarises these results. Although the propensity to experience downward social mobility is not significantly explained by parental social class, and the significance of the effect of parental social class disappears after accounting for the migration trajectories in the case of upward non-linear trajectories, the significant effect of parental background persists in final models of the three remaining social mobility types.

Despite all graduates in the analytical sample having comparable level of education, those from the lowest social class backgrounds are more likely than those from the highest to climb the social class ranks during their life course. Furthermore, compared to graduates originating from higher professional and managerial backgrounds, those originating from intermediate parental backgrounds are less likely to experience the most privileged lateral linear trajectories, and those from lower managerial backgrounds are more likely to experience lateral non-linearity trajectories. These effects remain, even after accounting for their education, and little change can be observed to the magnitude of these coefficients. These findings are in line with many

previous studies discussed in section 2.4.2, and contribute to the growing body of evidence regarding the intergenerational transmission of advantage.

8.4 Temporary migration to escalator cities can be beneficial

The emphasis on human agency inherent in the meritocratic assumptions also downplays the impacts of structural factors, such as the importance of place. However, the analysis conducted in Chapter 6 confirms the importance of 'area effects' on graduates' social mobility. In particular, the local ratio of professional workers in the area of residence at age 16 has been shown to have a degree of significant impact on three out of five social mobility trajectory types.

Furthermore, ERT theory, discussed in section 2.5.1 and investigated empirically in Chapter 7, ascertains that residence in escalator regions over the duration of people's working lives, can escalate their upward social mobility. This study investigates this assertion in the graduates' context, and the results indicate there is little support for this theory. This analysis does not detect any significant differences in the social mobility trajectories of those who reside in the escalator regions until age 42, and those who reside in non-escalators. This is partially because internal migration is more common in later life than the theory allows it to be, and due to the stepping-off stage occurring earlier in the analytical sample than assumed under ERT.

However, the results reveal novel insights with respect to graduates' who temporarily migrate to escalator regions - a group which could not be investigated when only two time points are compared. Those migrants are more likely to have less conventional, part-time or self-employed careers, and their experience of earlier residence in the escalators helps them remain above the 'glass floor' even after moving out of the escalator regions, protecting them from downward mobility.

Table 8.1 The comparison of selected coefficients related to the career type across models
Source: British Cohort Study 1970 (analytical sample)

Career type (ref: Stable)	Upward Linear				Upward Non-linear				Lateral Linear				Lateral Non-linear				Downward			
	M0	M1	M2	M3	M0	M1	M2	M3	M0	M1	M2	M3	M0	M1	M2	M3	M0	M1	M2	M3
Fragmented	-0.16 (0.17)	-0.21 (0.17)	-0.57 ** (0.27)	-0.5 (0.45)	0.68 *** (0.19)	0.71 *** (0.19)	0.90 *** (0.31)	-3.97 ** (1.63)	-0.72 *** (0.18)	-0.66 *** (0.19)	-0.67 *** (0.19)	2.68 (1.63)	0.32 (0.21)	0.25 (0.21)	0.26 (0.21)	0.3 (0.41)	-0.01 (0.28)	-0.09 (0.28)	0.5 (0.44)	0.07 (2.58)
Part-timers	-0.59 *** (0.19)	-0.65 *** (0.2)	-0.81 *** (0.29)	-0.59 (0.45)	0.07 (0.22)	0.08 (0.22)	0.02 (0.34)	-4.81 *** (1.70)	-0.12 (0.18)	-0.05 (0.18)	-0.12 (0.19)	4.88 *** (1.72)	0.519 ** (0.22)	0.48 ** (0.22)	0.48 ** (0.22)	-0.19 (0.5)	0.57 ** (0.27)	0.84 *** (0.27)	1.18 *** (0.45)	0.17 (2.61)
Self-employed	-0.48 ** (0.25)	-0.51 ** (0.25)	0.10 (0.35)	-0.46 (0.64)	0.30 (0.26)	0.30 (0.27)	0.5 (0.42)	-1.3 (2.14)	-0.12 (0.23)	-0.06 (0.24)	-0.12 (0.24)	3.35 * (1.98)	0.13 (0.3)	0.03 (0.3)	0.03 (0.3)	-0.78 (0.74)	0.61 * (0.33)	0.67 ** (0.33)	0.43 (0.58)	-1.57 (2.61)

Note: Coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01

Table 8.2 The comparison of selected coefficients related to parental social class across models
Source: British Cohort Study 1970 (analytical sample)

Parental class (ref: NSSEC 1)	Upward Linear			Upward Non-linear			Lateral Linear			Lateral Non-linear			Downward		
	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
NSSEC 2	0.06 (0.20)	0.03 (0.20)	-0.01 (0.21)	0.04 (0.21)	n/a	n/a	-0.18 (0.20)	-0.16 (0.20)	-0.13 (0.21)	0.39 * (0.22)	0.39 * (0.22)	0.39 * (0.23)	n/a	n/a	n/a
NSSEC 3_4	0.20 (0.22)	0.15 (0.22)	0.10 (0.23)	0.35 (0.22)	n/a	n/a	-0.60 ** (0.24)	-0.56 ** (0.24)	-0.49 * (0.26)	0.33 (0.28)	0.33 (0.28)	0.31 (0.29)	n/a	n/a	n/a
NSSEC 5_7	0.43 ** (0.21)	0.42 * (0.21)	0.42 * (0.23)	0.26 (0.25)	n/a	n/a	-0.41 * (0.24)	-0.35 (0.24)	-0.35 (0.26)	-0.17 (0.33)	-0.17 (0.33)	-0.20 (0.34)	n/a	n/a	n/a

Note: Coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; n/a variable not included in the model

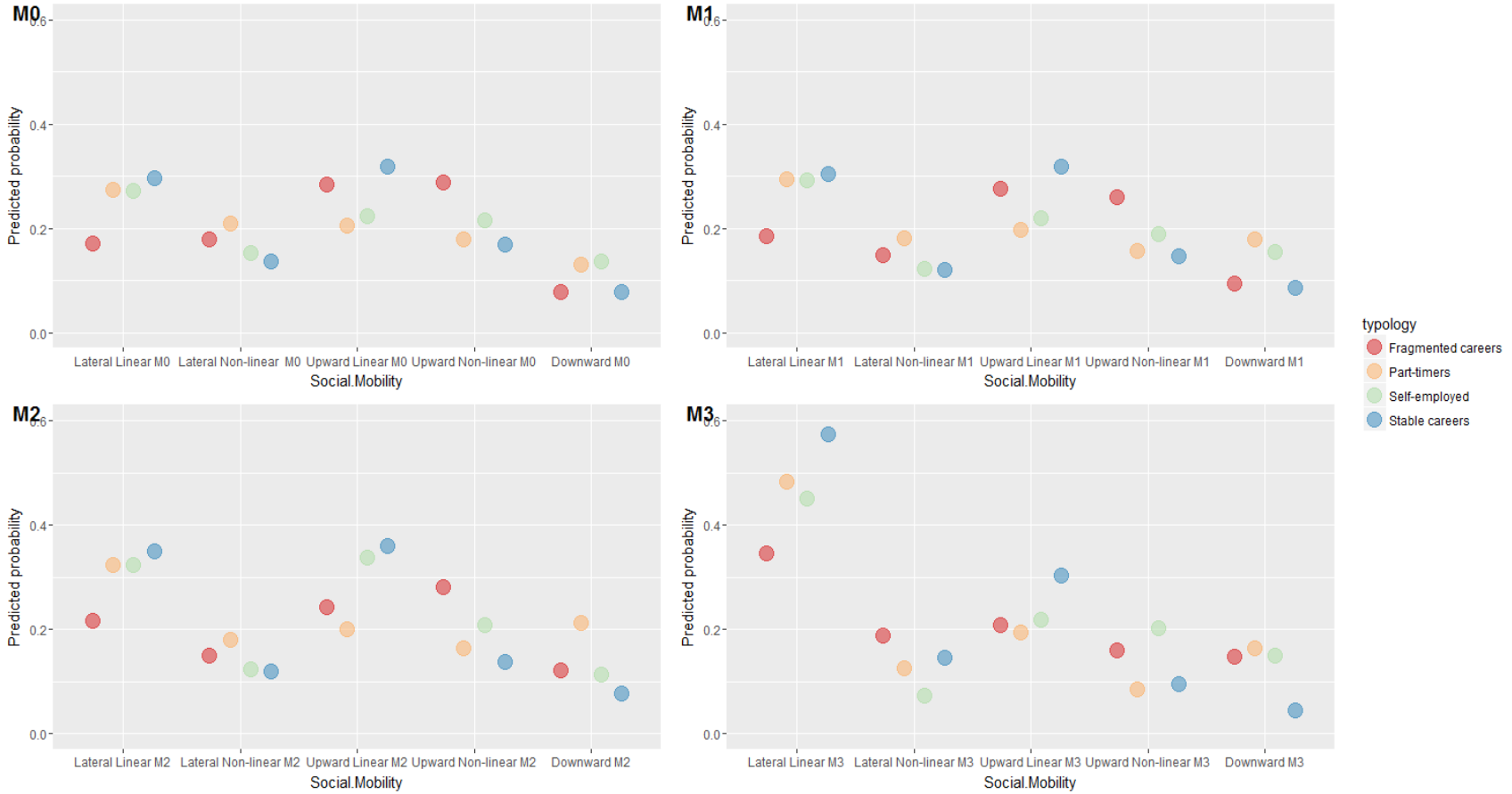

Figure 8.1 The comparison of predicted probabilities of social mobility trajectories by career type

Source: own compilation of data extracted from British Cohort Study 1970 (analytical sample)

8.5 Degree is the first "tick in the box"

It has been shown already in Chapter 4 that there are systematic deviations in terms of graduate subsample from the overall samples collected in the respective sweeps. The comparison of the samples shows that graduates are more able and more likely to strive to interesting jobs with variety. However, they also systematically vary from the overall sample in terms of their privilege experienced in the childhood. Graduates' parents are more likely to work in occupation related to higher social classes, and they are less likely to live in rented accommodation, which implies that the chances of becoming graduates are dependent on the background factor, and also contradicts the assumption of meritocracy.

Previous studies sometimes treat educational qualification as entirely hierarchical and equate higher education levels with a warranty of a better future. However, graduate labour market became more competitive with the expansion of higher education, pointing to the importance of horizontal differences between various degree-level qualifications, which can relate to the fields of study, degree-awarding institutions, or to whether or not graduates took time out during their studies. More recent studies show that comparative advantage can be gained not only by acquiring additional levels of education, but also by more strategic choices related to what is studied, where, and how. The analysis conducted in this study shows that substantial differences exist in the social mobility trajectories, career types, as well as the qualifications obtained amongst this, homogeneous in terms of the level of education, group of graduates.

The results of the analysis conducted in Chapter 8 show that the field of study is particularly relevant for the future labour market outcomes. For example, the careers of LEM graduates' exhibit greater levels of non-linearity, while the career of STEM graduates are more likely to be stable. Furthermore, STEM graduates are more likely to enter the labour market via jobs related to high social classes and remain in these jobs throughout the duration of their careers, while OSSAH degrees are the most likely to facilitate upward linear and prevent from downward social mobility. Thus, the degrees in different fields are likely to open different doors for their holders. This,

especially in the light of the persistent social background differences, can put the less well-informed at a considerable disadvantage.

8.6 Moving forward

This section outlines some of the implications for policy and practice of the research conducted in this thesis, and well as the limitations of this study and the avenues for further research. The recommendations for policy and practice have been developed in consultation with Skills Development Scotland (SDS), who are keen to implement these conclusions into the career information, advice, and guidance practice.

8.6.1 Recommendations for policy and practice

Despite the commonly expressed assumption that higher education can guarantee a better job in the future, this empirical investigation indicates that some graduates work in jobs which may not require higher education degrees. As these graduates may struggle in navigating their careers, the recommendation was made to raise awareness regarding the precarious and competitive nature of the contemporary graduate labour market, and ensure that higher education is not equated to a warranty of a stable career in the future.

This can be achieved by ensuring the understanding that the stable, full-time, paid employment is not the only route by which graduates can better themselves, and that the lack of such stable employment trajectory is not necessarily associated with the inability to manage the career building process effectively. These schemes should be particularly focused on the first-generation higher education participants, given their less advantaged situation, and potentially limited access to information regarding the risks and rewards of higher education. In cases where higher education route is chosen, the recommendation was made to ensure that substantial strategic consideration is given to the field of study, and to the job for which such qualifications are required, alongside the consideration of one's interest.

The suggestions that resources would be utilised more effectively by greater expansion of vocational and technical qualifications, rather than further expansion of higher education have already been made (Keep and Mayhew 2004), and schemes such as Foundation or Modern Apprenticeships are already implemented by SDS. However, these routes are sometimes perceived as inferior to higher education, and this lack of the parity of esteem preserves existing social class differences. However, in the graduate-saturated labour market, these routes may offer more certain future. For example, research conducted by SDS shows that Modern Apprentices are much more likely than graduates to be in employment 6 months after leaving the programme. Thus, effort should be made to ensure that apprenticeship schemes are not deemed as inferior or directed only at the less able.

Migration has been shown to be an effective strategy in tackling the inefficient allocation of people to jobs. The results of this investigation show that geographical location can create an opportunity structure which impacts on labour market trajectories, and even the short-term migration can offer long-term benefits. Therefore, the recommendation was made to develop greater geographical mobility of the labour force and to reassure that graduates explore opportunities beyond the local labour market.

8.6.2 Limitations

Undoubtedly interesting, findings could be revealed if additional interaction terms were included in the models analysed in this thesis. For example, the effect of gender or social mobility trajectories is shown to be of negligible importance, when evaluated by the criterion of statistical significance. Nevertheless, separate analysis by gender reveals some further gender differences and additional three-way interaction terms of career types and gender could reveal whether the role of facilitating factors examined in this thesis varies also by gender. However, this is unfeasible for two reasons. Firstly, these gender interactions terms would have to be included in the imputation model in order to circumvent the assumption of independence, which these models are based on. This implies that theoretical rationale would need to exist for their investigation.

Given that this research is based on the notion that in the era of destandardisation the life course of men and women increasingly resemble one another, the assumption of differences by gender ought to be tested first. Secondly, the sample size is already relatively small, which impedes the interpretation of the findings. For example, in the case of lateral linear, upward linear and downward social mobility, the inclusion of the two-way interaction terms between field of study and career type provides unreliable results due to small sample size. Furthermore, the role of facilitating factors investigate in chapters 7 and 8, could not be conducted separately by gender , due to small sample of males on part-time careers. If such additional investigations were to be conducted, they would require larger sample size, which is impossible to obtain retrospectively for secondary data.

An additional limitation is caused by the truncation of the observation period. The most recent BCS1970 sweep has been conducted in 2012, when the cohort members were 42, and thus, the social mobility trajectories has been classified into types based on their the directionality and linearity until that point. However, when the next sweep is conducted, the same graduate may be allocated to a different social mobility trajectory type. For example, if someone on downward trajectory obtains a job in a social class consistent with the occupation they performed before the downward move occurred, they could be reclassified into the lateral non-linear type. Thus, such or similar investigation should also be conducted on ongoing basis to investigate the sensitivity of the allocation of graduates to social mobility types.

Further limitation is related to the missing data in sequence analysis. The imputation approach has not been used in this thesis for sequence analysis, due to the limited evidence with respect to its validity and its lack of usability when the theoretically driven approach is chosen for allocating sequences to types. However, discarding incomplete cases can be particularly costly in terms of reduced sample size and loss of representatively (Halpin 2012). While the representativeness of the analytical sample has been inspected in the case of most of the variables of interest for this research, as shown in Chapter 4, the examination of the representativeness of the sample of migrants and non-migrants is impossible due to missingness in geographical residence

histories. However, sequence analysis research is constantly being developed, and these innovations are implemented into TraMineR package. Thus, this investigation should be re-examined when more advanced solutions to the problem of missing data in sequence analysis are developed.

8.6.3 Suggestions for further research

This research highlights the importance of longitudinal studies, as it reveals insight cross-sectional studies cannot reveal. Especially in the era of career destandardisation, mass higher education, and in the light of recent occupational restructurings, individual's occupational situation, and the resulting social class is expected to change more often over one's life course than it did before. This highlights the need for further longitudinal research, with respect to social mobility as well as the career paths of different socio-demographic groups, and the comparison of these trajectories across locations in historical times and places (Elder 1998).

Soon-to-be-available data can enable such investigations. Millennium Cohort Study, which follows children born in the UK in 2000-01, has been excluded from this research based on age of the study participants. However, they have recently embarked on their career paths, and soon the progression through social classes will be traceable. Similarly, the European Cohort Project is in the development stage, and cross-national comparisons will be possible when these data are available. What is more, comparisons could be made between the sample of graduates extracted from the British Cohort Study and the older, NCDS cohort. Thus, future studies should consider expanding this investigation onto different datasets, not necessarily graduate-only populations, and incorporating different generations. This would not only contribute to the understanding of the dynamic of intra-generational social mobility in different populations, but also help to ensure that the conclusions reached on the basis of this research are not data- or sample-specific.

The results of this study also indicate that career pathways should be afforded further attention, and therefore future social mobility research should incorporate

characteristics of one's career. Such research could also benefit from incorporating family-related trajectory, such as partnership and parenthood trajectories, in similar fashion as the migration trajectories were incorporated in this thesis. This would be especially interesting, given that previous literature shows that work and family lives are often intertwined with each other, and the employment situation is likely to be dependent on the decisions made with respect to the family dimension. The preliminary analyses, conducted incorporating the variable which reflects whether the person ever had children at age 42, reveals that having children may be related to lack of linearity in the social mobility trajectories. The results further indicate that for those graduates who enter employment via jobs related to higher social classes, having children may be likely to results in spells of underemployment, characterising lateral non-linear social mobility trajectories. However, for those who enter the labour market via jobs related to lower social classes, who most commonly originate from lower social classes, having children is additionally related to lower likelihood of upward progressions. Thus, further studies which look beyond the facilitating capabilities of migration and education, would allow for better understanding with respect to linked lives, which are not addressed in this study. As decisions related to the job, occupation, or geographical location changes can be driven by the aspiration to maximise work-life balance, this would help to understand the extent to which the family dimension of the life course plays an important role in the explaining social mobility trajectories.

Moreover, the attachment to place by social class should be further investigated. On one hand graduates from higher social classes have more financial resources to migrate. On the other hand, their less desperate socio-economic situation might retain them in place. Thus, more research should be conducted regarding the propensity to experience certain migration trajectories by social class background, in order to better understand this phenomenon.

Finally, as noted by Bergman (2005, p. 30) "it is exceedingly difficult to find all necessary information in the modern datasets that would allow for the calculation of class boundaries or social position according to complex theoretical propositions". This research is based on the NS-SEC categorisation, because the occupational basis

for this social class measures is consistent with the established narrative in social science, and because the use of this measure has been recommended by ONS. However, this does not imply that the alternative existing measures of social class are less useful. For example, further sensitivity analyses of allocating trajectory to type, shown in Appendix L, reveal that all social mobility trajectories, except from lateral linear, are sensitive to starting time and work conducted between age 16 and age 22. This is especially visible for the upward trajectories, which are sensitive to occupations conducted between age 16 and age 22. For example, out of the 234 people who were allocated to upward non-linear social mobility, based on their occupation at age 16, only 68% would be allocated to this type, had the trajectories been started at age 19, and only 42% if started at age 22. Thus, similar investigation should be conducted by the use of alternative social class measures, and different starting time points. For example, economic literature argues for the use of income and earnings-based measures of social status, and the studies of graduates' progression via the earnings quantiles across different types of careers would complement this investigation. Furthermore, it could potentially shed more light on the reasons for divergent findings between sociological and economic literature elaborated upon in section 2.2.1. Since the Centre for Longitudinal Studies is currently working on harmonising income and earnings measures across life course of the cohort members of the national cohorts, as well as the linkage of these studies to the HMRC data, such complementary investigations will soon be possible.

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Appendices

Appendix A: Recoding of SEG into NS-SEC

SEG	SEG 91 labels	Parental social class back10p and back20p	NS-SEC classification
1.1 Employers in industry, commerce etc. (large establishments)	Employers - large estab	11	higher managerial and professional occupations (NS-SEC 1)
1.2 Managers in central and local government, industry, commerce etc. (large establishments)	Managers - large estab	12	
2.1 Employers in industry, commerce etc. (small establishments)	Employers - small estab	21	intermediate occupations (NS-SEC 3-4)
2.2 managers in industry commerce etc. (small establishments)	Managers - small estab	22	lower managerial and professional occupations (NS-SEC 2)
3 Professional workers self-employed	Prof: Self-employed	30	higher managerial and professional occupations (NS-SEC 1)
4 Professional workers employees	Prof: Employees	40	
5.1 Intermediate non-manual workers	Intermed non-man: Foremen	51	lower managerial and professional occupations (NS-SEC 2)
5.2 Intermediate non-manual workers – foreman and supervisors non-manual	Intermed non-man: Ancilliary	52	
6 Junior non-manual workers	Junior non-manual	60	intermediate occupations (NS-SEC 3-4)
7 personal service workers	Personal service	70	semi-routine and routine occupations (NS-SEC 5-6-7)
8 Foreman and supervisors - manual	Foremen & supervisors: manual	80	
9 Skilled manual workers	Skilled manual	90	
10 Semi-skilled manual workers	Semi-skilled manual	100	
11 Unskilled manual workers	Unskilled manual	110	
12 own-account workers (other than professional)	Own account: non prof	120	intermediate occupations (NS-SEC 3-4)
13 farmers - employers and managers	Farmers:employers & mngrs	130	

14 farmers own account	Farmers: own account	140	
15 Agricultural workers	Agricultural workers	150	semi-routine and routine occupations (NS-SEC 5-6-7)
16 Members of Armed Forces	Armed forces	160	intermediate occupations (NS-SEC 3-4)
17 Inadequately described and non stated occupations	Don't know/ Not enough info.	No code available	NA
	Not applicable		

Appendix B: Recoding of the Economic Activities into Broader Categories

Types of activity included in the activity histories	Operational categories
F/t education	Education
Part-time education	
F/t paid employee (30+ hrs)	Employment FT
Employed, but unpaid	Employment PT
Employed, not known if FT/PT	
P/t paid employee (lt 30 hrs)	
F/t self-employed	Self-employed FT
P/t self-employed	Self-employed PT
Government training scheme	Unemployed
Unemployed seeking work	
Looking after home/family	Family
Maternity leave	
Other	Inactive or other
Permanently sick/disabled	
Temporarily sick/disabled	
Travelling/Extended holiday	
Voluntary work	
Wholly retired	
Don't know/ Not enough info.	NA
N/a no activities reported for CM	
Work but not known if ft/pt or emp/se	
Self-employed, not known if FT/PT	

Appendix C: Recoding of Counties into Escalator Regions

County	Recoding
Greater London	First Order Escalator
Bristol, City of Edinburgh, City of Glasgow, Greater Manchester, Leicestershire, Merseyside (Liverpool), Nottinghamshire, South Glamorgan (Cardiff), South Yorkshire (Sheffield), Tyne & Wear (Newcastle), West Midlands (Birmingham), West Yorkshire (Leeds)	Second Order Escalator
Aberdeenshire, Angus, Argyll and Bute, Ayrshire and Arran, Banffshire, Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cheshire, City of Aberdeen, City of Dundee, Clackmannan, Clwyd, Cornwall, Cumbria, Derbyshire, Devon, Dorset, Dumfries, Dunbartonshire, Durham, Dyfed, East Lothian, East Riding of Yorkshire, East Sussex, Essex, Fife, Gloucestershire, Gwent, Gwynedd, Hampshire, Herefordshire, Hertfordshire, Inverness, Isle of Wight, Kent, Kincardineshire, Lanarkshire, Lancashire, Lincolnshire, Mid Glamorgan, Midlothian, Moray, Nairn, Norfolk, North Yorkshire, Northamptonshire, Northumberland, Orkney, Oxfordshire, Perth and Kinross, Powys, Renfrewshire, Ross and Cromarty, Roxburgh, Ettrick and Lauderdale, Rutland, Shetland, Shropshire, Somerset, Staffordshire, Stirling and Falkirk, Suffolk, Surrey, Sutherland, The Stewartry of Kirkcudbright, Tweeddale, Warwickshire, West Glamorgan, West Lothian, West Sussex, Western Isles, Wigtown, Wiltshire, Worcestershire	Other
Not known/missing	NA

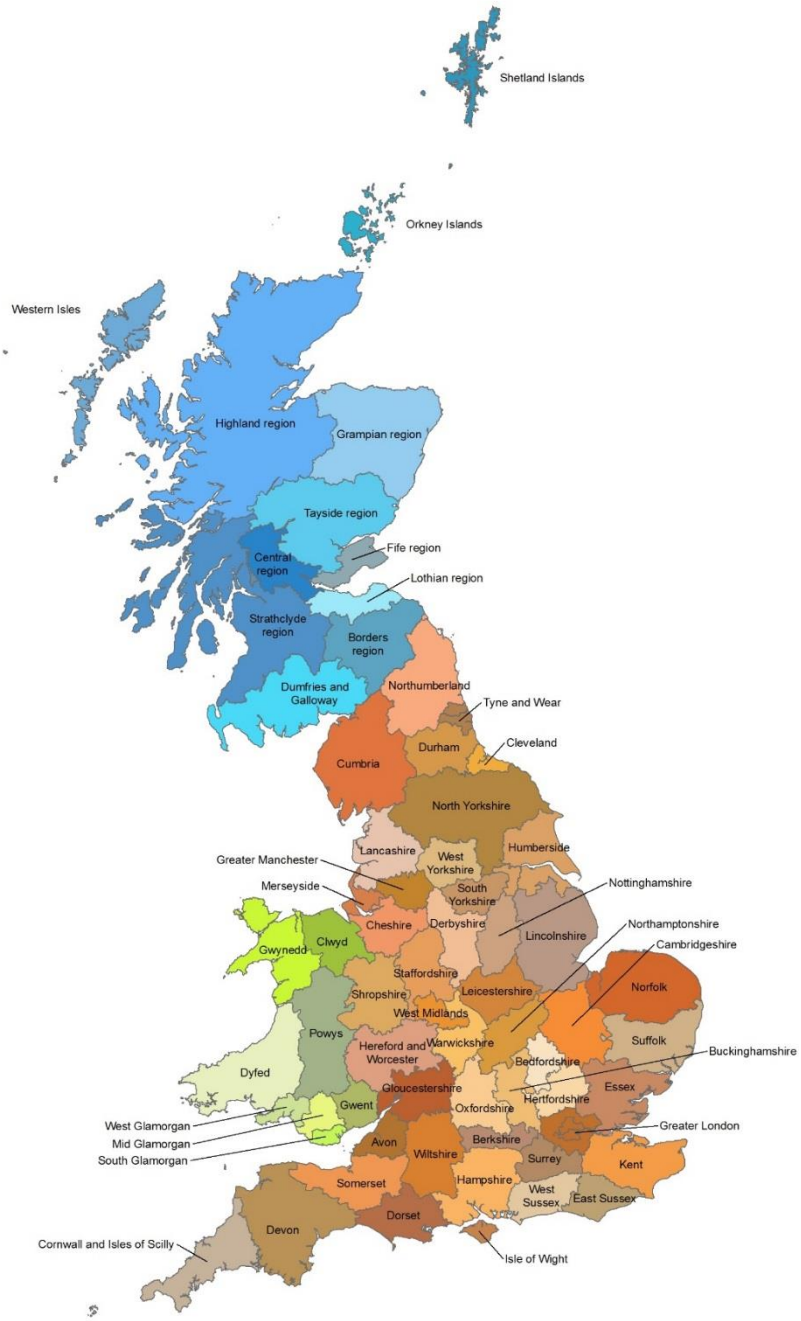
Appendix D: Recoding of the Scottish Counties into Scottish Regions

BCS1970 Counties	Frequency in the analytical sample	NOMIS counties
Roxburgh	1	Borders region
Tweedale	1	
Clackmannan	4	Central region
Falkirk	1	
Stirling	5	
Clywd	6	Differing spelling
Hereford and Worcs	11	
Kirkaldy	2	Fife region
North East Fife	1	
City of Aberdeen	5	Grampian region
Gordon	3	
Moray	3	
Inner London	16	Greater London
Outer London	60	
Lochaber	1	Highland region
Nairn	2	
Ross and Cromarty	1	
City of Edinburgh	10	Lothian region
Midlothian	2	
West Lothian	2	
Avon	18	Regions match in BCS1970 and in Census
Bedfordshire	10	
Berkshire	16	
Buckinghamshire	17	
Cambridgeshire	18	
Cheshire	21	
Cleveland	15	
Cornwall and Isles of Scilly	3	
Cumbria	15	
Derbyshire	19	
Devon	14	
Dorset	10	
Durham	15	
Dyfed	10	
East Sussex	15	
Essex	34	

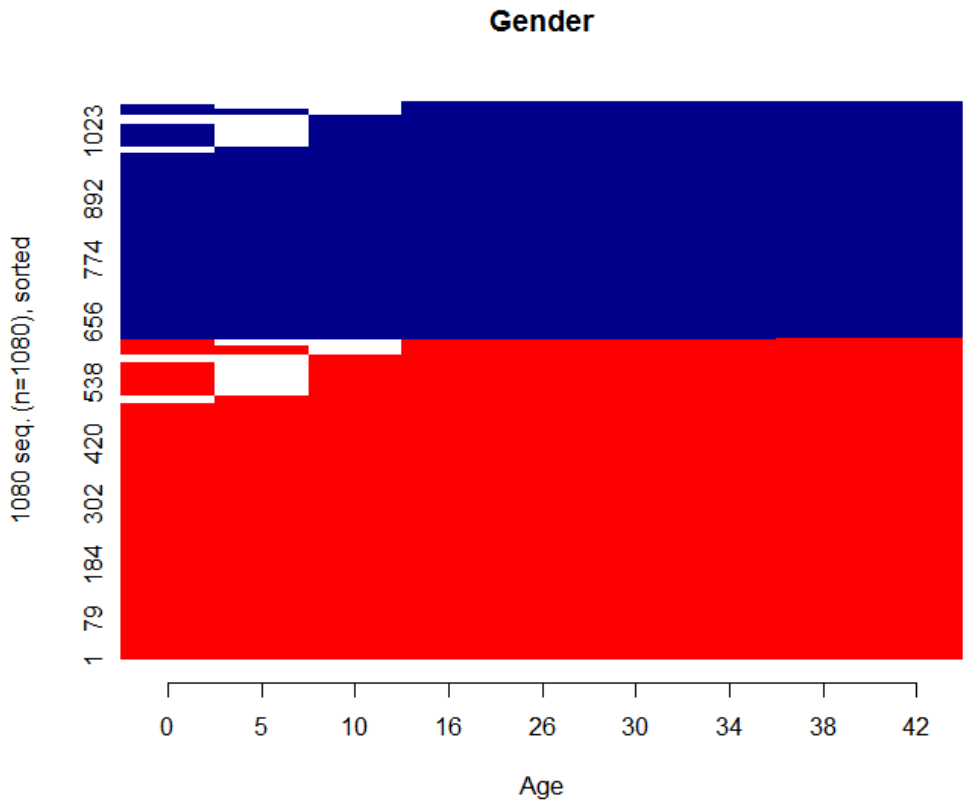
Gloucestershire	9	
Greater Manchester	39	
Gwent	9	
Gwynedd	5	
Hampshire	28	
Hertfordshire	29	
Humberside	19	
Isle of Wight	4	
Kent	42	
Lancashire	29	
Leicestershire	14	
Lincolnshire	9	
Merseyside	34	
Mid Glamorgan	12	
Norfolk	12	
North Yorkshire	21	
Northamptonshire	7	
Northumberland	7	
Nottinghamshire	11	
Oxfordshire	11	
Powys	4	
Shropshire	12	
Somerset	19	
South Glamorgan	5	
South Yorkshire	31	
Staffordshire	24	
Suffolk	12	
Surrey	23	
Tyne and Wear	19	
Warwickshire	14	
West Glamorgan	6	
West Midlands	39	
West Sussex	16	
West Yorkshire	42	
Wiltshire	5	
Argyll	2	Strathclyde region
Bearsden and Mingavie	2	
Bishopbriggs and Kirkintuloch	3	
City of Glasgow	8	
Cumbernauld	2	
Cunningham	3	

Dumbarton	3	
East Kilbride	4	
Eastward	4	
Hamilton	3	
Inverclyde	2	
Kilmarnock and Loudon	2	
Kyle and Carrick	6	
Lanark	1	
Monklands	1	
Motherwell	2	
Renfrew	3	
Angus	5	Tayside region
City of Dundee	5	
Perth and Kinross	1	
NA	10	NA

Appendix E: Region Labels



Appendix F: Gender over Time in the Analytical Sample



Appendix G: Recoding of the Universities

BCS label	Classification
Aberystwyth University, Bangor University /Uni of Wales, Bangor, Birkbeck College, Cardiff University, Goldsmiths College, Imperial College of Science etc, King's College London, London Business School, London School of Economics Pol Sci, Royal Holloway and Bedford New College, Swansea Metropolitan University, Swansea Uni/Uni Coll Swansea/Wales, The Queen's University of Belfast, The School of Pharmacy, The University of Aberdeen, The University of Birmingham, The University of Bristol, The University of Cambridge, The University of Glasgow, The University of Leeds, The University of Liverpool, The University of Newcastle-upon-Tyne, The University of Nottingham, The University of Oxford, The University of Reading, The University of Sheffield, The University of St Andrews, The University of Wales, Uni of Edinburgh/Edinburgh College Art, Uni of Manchester/Victoria/UMIST, Uni of Wales Trinity St David/Lampter, University College London, University of Durham, University of London (Institutes etc)	Old Universities (founded before 1950)
The Open University, Aston University, Brunel University, HeriotWatt Uni/Scottish Collge Textiles, Loughborough University, The City University, The University of Bath, The University of Bradford, The University of Buckingham, The University of East Anglia, The University of Essex, The University of Exeter, The University of Hull, The University of Keele, The University of Kent, The University of Lancaster, The University of Leicester, The University of Salford, The University of Southampton, The University of Stirling, The University of Strathclyde, The University of Surrey, The University of Sussex, The University of Warwick,The University of York, Uni of Dundee/Duncan of Jordanstone Art, University of Ulster/Ulster Polytechnic	Pre 92 Universities (founded between 1950s and 1992)
Anglia Ruskin Uni/Anglia Polytechnic, Bath Spa University, Birmingham City Uni/ Birmingham Poly, Bournemouth University/Bournemouth Poly, Buckinghamshire New University, Canterbury Christ Church University, Cardiff Metropolitan University, Central School of Speech and Drama, Coventry University/Coventry Poly, Cranfield University, De Montfort University / Leicester Poly, Edge Hill University, Edinburgh Napier University/Napier Poly, Glasgow Caledonian University, Harper Adams University College, Kingston University/Kingston Poly, Leeds Metropolitan University/LeedsPoly, Liverpool Hope University, Liverpool JohnMoores Uni/Liverpool Poly, London Met Uni/ City/North London Poly, London South Bank Uni/ South Bank Poly, Manchester Metropolitan/Manchester Poly, Middlesex	Post 92

University/Polytechnic, Nottingham Trent Uni/Trent/Nott Poly, Oxford Brookes University/ Oxford Poly, Queen Margaret University / College, Queen Mary and Westfield College, Robert Gordon Uni/Institute of Tech, Roehampton University, Rose Bruford College, Royal Academy of Music, Royal College of Music, Royal Northern College of Music, Scottish Agricultural College, Sheffield Hallam Uni/ Sheffield Poly, Southampton Solent University, Staffordshire Uni/ Staffordshire Poly, Teesside University/Teesside Poly, Thames Valley Uni/ Poly of West London, The University of Bolton, The University of Chichester, The University of Northampton, The University of Wales, Newport, The University of West London, The University of Winchester, The University of Worcester, The Universty of Brighton/Brighton Poly, Uni Abertay Dundee/Dundee Inst of Tech, Uni Central Lancashire/Lancashire Poly, Uni College Plymouth St Mark St John, Uni Northumbria Newcastle/NewcastlePoly, Uni of Cumbria, Uni of East London /Poly of East London, Uni of Hertfordshire/Hatfield Poly, Uni of Huddersfield/ Huddersfield Poly, Uni of the West of England/Bristol Poly, Uni of West Scotland/Paisley Coll Tech, Uni of Westminster/Central/Royal L Poly, Uni of Wolverhampton/Wolverhampton Poly, University College Falmouth, University o Sunderland/Sunderland Poly, University of Bedfordshire, University of Chester, University of Derby, University of Glamorgan/ Poly of Wales, University of Gloucestershire, University of Greenwich/Thames Poly, University of Lincoln/ Humberside Poly, University of Plymouth/ Poly South West, University of the Arts London, Universty of Portsmouth/Portsmouth Poly, York St John University	

Appendix H: Modelling Results Tables Summarised in Chapter 6

Explanatory variables		Stable careers		Part-timers		Self-employed		Fragmented careers	
		As only predictor	Full model	As only predictor	Full model	As only predictor	Full model	As only predictor	Full model
Moved during childhood (ref: Not moved)	Moved	-0.068 (0.225)	-0.069 (0.246)	-0.01 (0.201)	0.039 (0.224)	0.166 (0.312)	0.155 (0.285)	-0.014 (0.207)	-0.054 (0.231)
Unemployment rate	%	0.023 (0.023)	0.022 (0.031)	-0.017 (0.025)	-0.031 (0.035)	-0.028 (0.034)	-0.014 (0.045)	0.004 (0.023)	0.011 (0.03)
Ratio of professional workers	%	-0.122 ** (0.058)	-0.066 (0.086)	0.007 (0.06)	-0.145 (0.098)	0.026 (0.08)	0.104 (0.117)	0.094 * (0.055)	0.118 (0.081)
Part time employment rate	%	0.041 (0.042)	0.002 (0.057)	-0.002 (0.043)	-0.038 (0.062)	0.074 (0.063)	0.1 (0.078)	-0.068 * (0.039)	-0.02 (0.051)
Industry Sector (ref: Tertiary)	Primary	0.349 ** (0.166)	0.17 (0.222)	-0.303 * (0.175)	-0.252 (0.254)	0.21 (0.235)	0.233 (0.312)	-0.172 (0.162)	-0.027 (0.211)
	Secondary	0.25 (0.163)	0.031 (0.215)	-0.277 (0.169)	-0.265 (0.248)	0.054 (0.236)	0.257 (0.32)	-0.018 (0.155)	0.089 (0.204)
Housing tenure (ref: rented in childhood)	Being bought across childhood sweeps	0.13 (0.23)	0.015 (0.307)	0.094 (0.327)	0.235 (0.449)	-0.01 (0.461)	-0.051 (0.49)	-0.178 (0.25)	-0.124 (0.287)
Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	-0.533 *** (0.184)	-0.575 *** (0.202)	-0.012 (0.197)	-0.109 (0.235)	0.257 (0.27)	0.325 (0.286)	0.423 ** (0.184)	0.438 ** (0.195)
	Ns-Sec 3 and 4	-0.606 *** (0.201)	-0.566 ** (0.233)	0.11 (0.225)	-0.015 (0.28)	0.612 ** (0.285)	0.72 ** (0.31)	0.186 (0.218)	0.126 (0.236)
	Ns-Sec 5-7	-0.218 (0.21)	-0.081 (0.245)	0.045 (0.231)	-0.105 (0.27)	-0.466 (0.426)	-0.336 (0.434)	0.344 (0.223)	0.269 (0.239)
Gender (ref: Female)	Male	1.278 *** (0.138)	1.213 *** (0.161)	-2.863 *** (0.26)	-2.667 *** (0.278)	0.616 *** (0.192)	0.542 ** (0.232)	0.151 (0.13)	0.111 (0.158)
Importance of working for self (ref: Doesn't matter)	Matters	-0.193 (0.295)	0.086 (0.62)	-0.074 (0.255)	-0.159 (0.587)	0.414 (0.378)	0.383 (0.604)	0.043 (0.339)	-0.156 (0.618)
Importance of variety in a job (ref: Matters less)	Matters very much	-0.362 (0.278)	-0.502 (0.587)	0.011 (0.307)	0.203 (0.623)	0.304 (0.362)	-0.027 (0.54)	0.179 (0.365)	0.316 (0.634)
Importance of security in a job (ref: Matters very much)	Matters less	-0.351 (0.414)	-0.279 (0.409)	0.139 (0.332)	0.034 (0.365)	0.166 (0.35)	0.234 (0.369)	0.13 (0.385)	0.101 (0.374)
Importance of family life (ref: very interested)	Quite interested	0.748 *** (0.231)	0.551 ** (0.228)	-0.987 *** (0.213)	-0.816 *** (0.226)	-0.367 (0.254)	0.411 * (0.295)	0.38 * (0.204)	0.442 ** (0.2)
	Not interested or sure	0.704 *** (0.217)	0.278 (0.275)	-2.008 *** (0.341)	-1.272 *** (0.34)	0.638 ** (0.273)	-0.483 (0.266)	0.44 * (0.239)	0.356 (0.256)
Ability (Maths)	Friendly Maths Test	0.028 *** (0.009)	0.023 ** (0.01)	-0.015 (0.01)	-0.004 (0.012)	0.004 (0.013)	-0.003 (0.015)	-0.015 (0.01)	-0.014 (0.01)

Ability (Vocabulary)	Raw Vocabulary Test score	0.009 (0.01)	0.003 (0.012)	-0.001 (0.012)	-0.004 (0.016)	0.004 (0.012)	0.014 (0.014)	-0.009 (0.014)	-0.005 (0.014)
Constant		-	-2.241 (1.633)	-	2.661 (1.852)	-	-5.919 *** (2.27)	-	-1.132 (1.541)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables		Lateral linear		Lateral non linear		Upward linear		Upward non-linear		Downward	
		As added predictor	Full model	As added predictor	Full model	As added predictor	Full model	As added predictor	Full model	As added predictor	Full model
Career Typology (ref=Stable Careers)	Fragmented Careers	-0.721*** (0.185)	-0.729*** (0.208)	0.321 (0.212)	0.241 (0.261)	-0.158 (0.166)	-0.251 (0.193)	0.681*** (0.187)	0.735*** (0.218)	-0.008 (0.284)	0.221 (0.299)
	Part-timers	-0.116 (0.183)	-0.22 (0.219)	0.519 ** (0.22)	0.392 (0.267)	-0.587*** (0.192)	-0.648*** (0.228)	0.07 (0.217)	0.17 (0.256)	0.568** (0.273)	0.966*** (0.33)
	Self-employed	-0.123 (0.234)	-0.146 (0.252)	0.127 (0.296)	0.045 (0.343)	-0.48** (0.245)	-0.527** (0.261)	0.299 (0.262)	0.31 (0.287)	0.61* (0.331)	0.864** (0.351)
Moved during childhood (ref: Not moved)	Moved	-0.064 (0.23)	-0.084 (0.252)	0.141 (0.192)	0.136 (0.217)	-0.105 (0.204)	-0.131 (0.221)	0.113 (0.198)	0.138 (0.215)	-0.102 (0.271)	-0.053 (0.29)
Unemployment rate	%	-0.019 (0.025)	-0.026 (0.033)	-0.035 (0.029)	-0.017 (0.039)	-0.025 (0.025)	-0.001 (0.03)	0.045* (0.026)	0.018 (0.033)	0.059* (0.035)	0.037 (0.044)
Ratio of professional workers	%	0.058 (0.06)	0.137 (0.087)	0.139** (0.067)	0.191* (0.101)	0.072 (0.058)	0.035 (0.082)	-0.192*** (0.067)	-0.272*** (0.093)	-0.176* (0.093)	-0.181 (0.126)
Part time employment rate	%	0.004 (0.044)	-0.012 (0.056)	-0.003 (0.049)	0.044 (0.064)	0.012 (0.043)	0.047 (0.052)	-0.013 (0.046)	-0.065 (0.057)	-0.005 (0.063)	-0.042 (0.08)
Industry Sector (ref: Tertiary)	Primary	0.207 (0.179)	0.504** (0.231)	-0.132 (0.205)	0.146 (0.271)	-0.21 (0.17)	-0.267 (0.215)	0.073 (0.187)	-0.288 (0.234)	0.129 (0.264)	-0.109 (0.321)
	Secondary	0.187 (0.175)	0.534** (0.231)	-0.003 (0.194)	0.35 (0.26)	-0.349** (0.168)	-0.368* (0.213)	0.061 (0.182)	-0.376 (0.231)	0.284 (0.25)	-0.041 (0.302)
Housing tenure (ref: rented in childhood)	Being bought across childhood sweeps	0.297 (0.256)	0.23 (0.288)	-0.312 (0.228)	-0.355 (0.259)	-0.091 (0.203)	-0.034 (0.214)	-0.062 (0.181)	0.011 (0.199)	0.265 (0.283)	0.196 (0.32)
Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	-0.186 (0.19)	-0.217 (0.198)	0.376 * (0.223)	0.41* (0.231)	0.036 (0.196)	0.047 (0.203)	0.049 (0.211)	0.075 (0.216)	-0.321 (0.28)	-0.364 (0.281)
	Ns-Sec 3 and 4	-0.609*** (0.223)	-0.6** (0.25)	0.315 (0.275)	0.359 (0.279)	0.174 (0.213)	0.17 (0.217)	0.374* (0.216)	0.365 (0.237)	-0.337 (0.303)	-0.355 (0.314)
	Ns-Sec 5-7	-0.398* (0.232)	-0.381 (0.273)	-0.212 (0.325)	-0.181 (0.367)	0.365* (0.208)	0.39 (0.237)	0.329 (0.246)	0.297 (0.28)	-0.307 (0.322)	-0.337 (0.336)

Gender (ref: Female)	Male	-0.207 (0.163)	-0.205 (0.182)	-0.097 (0.187)	-0.094 (0.211)	-0.052 (0.153)	-0.036 (0.17)	0.157 (0.166)	0.13 (0.185)	0.408* (0.243)	0.35 (0.258)
Importance of working for self (ref: Doesn't matter)	Matters	-0.065 (0.264)	0.064 (0.445)	-0.034 (0.263)	-0.43 (0.699)	-0.07 (0.224)	-0.187 (0.42)	0.265 (0.24)	0.459 (0.422)	-0.179 (0.236)	-0.009 (0.383)
Importance of variety in a job (ref: Matters less)	Matters very much	-0.164 (0.18)	-0.178 (0.364)	0.262 (0.253)	0.55 (0.708)	0.022 (0.161)	0.148 (0.348)	0.05 (0.26)	-0.289 (0.455)	-0.245 (0.242)	-0.241 (0.397)
Importance of security in a job (ref: Matters very much)	Matters less	-0.228 (0.186)	-0.182 (0.197)	-0.024 (0.222)	-0.014 (0.235)	0.213** (0.196)	0.179 (0.192)	0.128 (0.209)	0.094 (0.209)	-0.212 (0.254)	-0.184 (0.264)
Importance of family life (ref: very interested)	Quite interested	-0.275 (0.198)	-0.336 (0.212)	-0.215 (0.297)	-0.391 (0.351)	0.137 (0.191)	0.17 (0.189)	0.143 (0.216)	0.158 (0.23)	0.363 (0.283)	0.325 (0.29)
	Not interested or sure	-0.137 (0.228)	-0.039 (0.248)	-0.355 (0.306)	-0.165 (0.308)	0.159 (0.208)	0.195 (0.226)	0.137 (0.228)	0.04 (0.258)	0.239 (0.339)	0.185 (0.359)
Ability (Maths)	Friendly Maths Test	-0.001 (0.011)	-0.007 (0.011)	0.019 (0.013)	0.018 (0.015)	-0.007 (0.01)	-0.003 (0.011)	-0.009 (0.011)	-0.004 (0.012)	0.007 (0.012)	0.005 (0.013)
Ability (Vocabulary)	Raw Vocabulary Test score	0.019* (0.009)	0.02* (0.011)	-1E-04 (0.019)	0.001 (0.02)	-0.009 (0.009)	-0.009 (0.01)	-0.012 (0.011)	-0.01 (0.011)	0.007 (0.012)	0.002 (0.013)
Constant		-	-2.035 (1.663)	-	-5.12** (2.031)	-	-1.206 (1.587)	-	2.03 (1.734)	-	-1.189 (2.318)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Appendix I: Modelling Results Tables Summarised in Chapter 7

Explanatory variables			Stable careers			Part-timers			Self-employed			Fragmented		
			Migration only	M1	M1 + Migration	Migration only	M1	M1 + Migration	Migration only	M1	M1 + Migration	Migration only	M1	M1 + Migration
Control variables	Ratio of professional workers	%	x	-0.09 (0.075)	-0.08 (0.076)	x	x	x	x	x	x	x	0.083 (0.061)	0.104 * (0.062)
	Part time employment rate	%	x	x	x	x	x	x	x	x	x	x	-0.05 (0.043)	-0.03 (0.046)
	Industry Sector (ref: Tertiary)	Primary	x	0.168 (0.208)	0.138 (0.215)	x	-0.13 (0.205)	-0.22 (0.212)	x	x	x	x	x	x
		Secondary	x	0.103 (0.203)	0.103 (0.206)	x	-0.18 (0.198)	-0.13 (0.199)	x	x	x	x	x	x
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	-0.53 *** (0.199)	-0.55 *** (0.201)	x	x	x	x	0.268 (0.272)	0.307 (0.275)	x	0.43 ** (0.188)	0.432 ** (0.189)
		Ns-Sec 3 and 4	x	-0.58 *** (0.22)	-0.62 *** (0.222)	x	x	x	x	0.662 ** (0.288)	0.731 ** (0.291)	x	0.203 (0.219)	0.191 (0.222)
		Ns-Sec 5-7	x	-0.06 (0.234)	-0.12 (0.237)	x	x	x	x	-0.38 (0.427)	-0.34 (0.429)	x	0.376 * (0.224)	0.383 * (0.226)
	Gender (ref: Female)	Male	x	1.207 *** (0.159)	1.211 *** (0.16)	x	-2.63 *** (0.27)	-2.64 *** (0.272)	x	0.487 ** (0.221)	0.504 ** (0.223)	x	x	x
		Not interested or sure	x	0.195 (0.275)	0.192 (0.278)	x	-1.25 *** (0.354)	-1.23 *** (0.354)	x	0.438 (0.301)	0.468 (0.3)	x	0.446 * (0.239)	0.443 * (0.245)

	Importance of family life (ref: very interested)	Quite interested	x	0.554 ** (0.238)	0.598 ** (0.24)	x	-0.79 *** (0.227)	-0.86 *** (0.235)	x	-0.44 * (0.256)	-0.52 ** (0.26)	x	0.41 * (0.206)	0.45 ** (0.209)
	Ability (Maths)	Friendly Maths Test	x	0.023 ** (0.01)	0.024 ** (0.01)	x	x	x	x	x	x	x	x	x
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	-0.24 (0.184)	x	-0.2 (0.212)	-0.24 (0.198)	x	-0.38 (0.235)	-0.39 (0.293)	x	-0.51 * (0.3)	0.572 *** (0.174)	x	0.584 *** (0.186)
		Stayers in and Lasting Movers to Escalators	0.02 (0.159)	x	-0.07 (0.179)	-0.36 ** (0.181)	x	-0.35 * (0.209)	-0.03 (0.236)	x	-0.03 (0.244)	0.287 * (0.16)	x	0.312 ** (0.166)
		Temporary Movers	-0.64 *** (0.242)	x	-0.82 *** (0.262)	0.353 (0.216)	x	0.453 * (0.255)	0.526 * (0.274)	x	0.684 ** (0.288)	-0.08 (0.224)	x	-0.09 (0.23)
	Constant		-0.71 *** (0.1)	-1.98 ** (0.885)	-1.92 ** (0.901)	-1.02 *** (0.107)	0.146 (0.161)	0.284 (0.193)	-2.04 *** (0.147)	-2.44 *** (0.259)	-2.48 *** (0.286)	-0.89 *** (0.104)	-1.12 (1.044)	-2.29 ** (1.124)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Lateral linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	-0.693** (0.28)	-0.66*** (0.19)	-0.652*** (0.192)	-0.628** (0.284)	-0.683*** (0.188)
		Part-timers	x	-0.384 (0.274)	-0.052 (0.188)	-0.105 (0.19)	-0.372 (0.278)	-0.129 (0.187)
		Self-employed	x	-0.612 (0.382)	-0.061 (0.241)	-0.12) (0.244	-0.489 (0.393)	-0.123 (0.241)
	Industry Sector (ref = Tertiary)	Primary	x	x	0.236 (0.183)	0.162 (0.188)	0.145 (0.189)	x
		Secondary	x	x	0.253 (0.184)	0.296 (0.186)	0.248 (0.189)	x
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	-0.182 (0.197)	-0.169 (0.199)	-0.195 (0.201)	-0.171 (0.191)
		Ns-Sec 3 and 4	x	x	-0.602** (0.243)	-0.583** (0.247)	-0.582** (0.248)	-0.581** (0.225)
		Ns-Sec 5-7	x	x	-0.409* (0.244)	-0.394 (0.248)	-0.428* (0.252)	-0.374 (0.235)
	Ability (Vocabulary)	Raw Vocabulary Test score	x	x	0.019* (0.01)	0.019* (0.01)	0.018* (0.01)	-0.345 (0.211)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	-0.415** (0.208)	-0.64* (0.368)	x	-0.361 (0.224)	-0.6 (0.38)	-0.122 (0.178)
		Stayers in and Lasting Movers to Escalators	-0.143 (0.175)	-0.115 (0.28)	x	-0.131 (0.187)	-0.165 (0.288)	0.364 (0.221)
		Temporary Movers	0.388* (0.216)	-0.295 (0.475)	x	0.377* (0.227)	-0.345 (0.485)	0.364 (0.221)
	Migration* typology (ref:	Fragmented careers*Complex Movers	x	0.454 (0.514)	x	x	0.329 (0.521)	x
		Part-timers* Movers	x	0.17	x	x	0.211	x

	Stayers in Non-escalators * Stable)			(0.576)			(0.584)	x
		Self-employed*Complex Movers	x	0.777 (0.76)	x	x	0.578 (0.773)	x
		Fragmented careers*Stayers in and Lasting Movers to Escalators	x	-0.73 (0.487)	x	x	-0.659 (0.492)	x
		Part-timers*Stayers in and Lasting Movers to Escalators	x	0.379 (0.451)	x	x	0.518 (0.46)	x
		Self-employed*Stayers in and Lasting Movers to Escalators	x	0.598 (0.581)	x	x	0.496 (0.592)	x
		Fragmented careers*Temporary Movers	x	0.775 (0.643)	x	x	0.783 (0.652)	x
		Part-timers*Temporary Movers	x	0.958 (0.607)	x	x	1.006 (0.615)	x
		Self-employed*Temporary Movers	x	1.169 (0.724)	x	x	1.147 (0.735)	x
	Constant		-1.058*** (0.108)	-0.703*** (0.175)	-1.715*** (0.549)	-1.657*** (0.564)	-1.488** (0.581)	-0.584*** (0.179)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Lateral Non-linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.547 (0.343)	0.255 (0.214)	0.26 (0.215)	0.511 (0.345)	0.255 (0.214)
		Part-timers	x	0.863** (0.336)	0.476** (0.222)	0.487** (0.223)	0.863** (0.338)	0.476** (0.222)
		Self-employed	x	0.337 (0.463)	0.03 (0.301)	0.039 (0.302)	0.22 (0.469)	0.03 (0.301)
	Ratio of professional workers	%	x	x	0.133** (0.067)	0.135** (0.068)	0.136** (0.068)	0.133** (0.067)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	0.386* (0.223)	0.388* (0.224)	0.412* (0.226)	0.386* (0.223)
		Ns-Sec 3 and 4	x	x	0.334 (0.278)	0.331 (0.279)	0.349 (0.282)	0.334 (0.278)
		Ns-Sec 5-7	x	x	-0.165 (0.326)	-0.175 (0.328)	-0.165 (0.33)	-0.165 (0.326)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	0.008 (0.222)	0.347 (0.445)	x	-0.053 (0.226)	0.282 (0.448)	x
		Stayers in and Lasting Movers to Escalators	-0.007 (0.199)	0.331 (0.381)	x	0.045 (0.202)	0.431 (0.385)	x
		Temporary Movers	-0.041 (0.27)	0.337 (0.602)	x	-0.104 (0.275)	0.373 (0.605)	x
	Migration* typology (ref: Stayers in Non-	Fragmented careers*Complex Movers	x	-0.518 (0.578)	x	x	-0.488 (0.582)	x
		Part-timers* Movers	x	-0.326 (0.603)	x	x	-0.344 (0.609)	x
		Self-employed*Complex Movers	x	-0.658 (0.955)	x	x	-0.585 (0.962)	x

	escalators * Stable)	Fragmented careers*Stayers in and Lasting Movers to Escalators	x	-0.272 (0.508)	x	x	-0.371 (0.514)	x
		Part-timers*Stayers in and Lasting Movers to Escalators	x	-0.742 (0.559)	x	x	-0.845 (0.566)	x
		Self-employed*Stayers in and Lasting Movers to Escalators	x	-0.349 (0.727)	x	x	-0.335 (0.731)	x
		Fragmented careers*Temporary Movers	x	-0.418 (0.784)	x	x	-0.496 (0.79)	x
		Part-timers*Temporary Movers	x	-0.796 (0.761)	x	x	-0.888 (0.766)	x
		Self-employed*Temporary Movers	x	-0.191 (0.901)	x	x	-0.19 (0.906)	x
	Constant		-1.578*** (0.125)	-2.042*** (0.258)	-3.136*** (0.631)	-3.153*** (0.638)	-3.39*** (0.674)	-3.136*** (0.631)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Upward linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	-0.528* (0.269)	-0.21 (0.173)	-0.209 (0.173)	-0.61** (0.275)	-0.567** (0.271)
		Part-timers	x	-0.786*** (0.29)	-0.653*** (0.197)	-0.623*** (0.198)	-0.828*** (0.293)	-0.805*** (0.291)
		Self-employed	x	-0.079 (0.343)	-0.514** (0.251)	-0.476* (0.253)	-0.139 (0.351)	-0.1 (0.349)
	Industry Sector (ref: Tertiary)	Primary	x	x	-0.225 (0.171)	-0.197 (0.177)	-0.179 (0.179)	-0.185 (0.179)
		Secondary	x	x	-0.385** (0.171)	-0.401** (0.172)	-0.379** (0.174)	-0.392** (0.173)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	0.063 (0.198)	0.057 (0.199)	0.041 (0.2)	0.03 (0.2)
		Ns-Sec 3 and 4	x	x	0.199 (0.216)	0.182 (0.218)	0.153 (0.221)	0.154 (0.22)
		Ns-Sec 5-7	x	x	0.43** (0.212)	0.414* (0.213)	0.421* (0.215)	0.418* (0.214)
	Importance of security in a job (ref: Matters very much)		x	x	0.196 (0.196)	0.197 (0.196)	0.206 (0.199)	X
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	0.056 (0.187)	-0.076 (0.329)	x	0.089 (0.201)	-0.04 (0.338)	-0.029 (0.337)
		Stayers in and Lasting Movers to Escalators	0.073 (0.167)	-0.175 (0.279)	x	0.07 (0.175)	-0.161 (0.284)	-0.157 (0.283)
		Temporary Movers	-0.417* (0.247)	-0.792 (0.527)	x	-0.325 (0.252)	-0.804 (0.531)	-0.79 (0.53)
	Migration* typology (ref: Stayers in Non-escalators * Stable)	Fragmented careers*Complex Movers	x	0.378 (0.453)	x	x	0.459 (0.458)	0.432 (0.456)

		Part-timers* Complex Movers	x	0.348 (0.531)	x	x	0.264 (0.536)	0.267 (0.535)
		Self-employed*Complex Movers	x	-0.742 (0.775)	x	x	-0.716 (0.783)	-0.718 (0.781)
		Fragmented careers* Stayers in and Lasting Movers to Escalators	x	0.711* (0.403)	x	x	0.722* (0.409)	0.702* (0.407)
		Part-timers* Stayers in and Lasting Movers to Escalators	x	0.341 (0.48)	x	x	0.323 (0.486)	0.319 (0.484)
		Self-employed*Stayers in and Lasting Movers to Escalators	x	-0.825 (0.633)	x	x	-0.728 (0.64)	-0.756 (0.638)
		Fragmented careers* Temporary Movers	x	0.903 (0.685)	x	x	1.004 (0.693)	0.95 (0.69)
		Part-timers* Temporary Movers	x	0.745 (0.696)	x	x	0.758 (0.701)	0.77 (0.699)
		Self-employed* Temporary Movers	x	-0.383 (0.865)	x	x	-0.353 (0.87)	-0.363 (0.869)
	Constant		-0.989*** (0.106)	-0.643*** (0.173)	-0.763*** (0.205)	-0.772*** (0.227)	-0.659*** (0.248)	-0.577** (0.234)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Upward non-linear					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.867*** (0.305)	0.71*** (0.19)	0.698*** (0.191)	0.88*** (0.308)	0.895*** (0.306)
		Part-timers	x	0.2 (0.34)	0.075 (0.219)	0.089 (0.22)	0.196 (0.342)	0.196 (0.341)
		Self-employed	x	0.484 (0.413)	0.297 (0.267)	0.314 (0.268)	0.455 (0.42)	0.495 (0.415)
	Unemployment rate	%	x	x	0.013 (0.029)	0.001 (0.031)	0.005 (0.031)	x
	Ratio of professional workers	%	x	x	-0.172** (0.073)	-0.185** (0.075)	-0.183** (0.075)	-0.195*** (0.068)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	0.036 (0.212)	0.043 (0.213)	0.058 (0.214)	x
		Ns-Sec 3 and 4	x	x	0.348 (0.217)	0.35 (0.218)	0.337 (0.22)	x
		Ns-Sec 5-7	x	x	0.264 (0.248)	0.274 (0.249)	0.29 (0.252)	x
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	0.269 (0.2)	0.456 (0.401)	x	0.235 (0.214)	0.497 (0.408)	0.503 (0.403)
		Stayers in and Lasting Movers to Escalators	0.237 (0.181)	0.238 (0.356)	x	0.194 (0.188)	0.198 (0.361)	0.19 (0.357)
		Temporary Movers	-0.056 (0.256)	0.596 (0.522)	x	-0.011 (0.261)	0.628 (0.526)	0.595 (0.524)
	Migration* typology (ref: Stayers in Non-	Fragmented careers*Complex Movers	x	-0.339 (0.502)	x	x	-0.365 (0.505)	-0.38 (0.504)
		Part-timers* Movers	x	-0.415	x	x	-0.407	-0.372

	escalators * Stable)			(0.61)			(0.615)	(0.612)
		Self-employed*Complex Movers	x	-0.319 (0.776)	x	x	-0.297 (0.785)	-0.343 (0.78)
		Fragmented careers*Stayers in and Lasting Movers to Escalators	x	-0.072 (0.457)	x	x	-0.015 (0.461)	-0.003 (0.459)
		Part-timers*Stayers in and Lasting Movers to Escalators	x	0.097 (0.534)	x	x	0.081 (0.539)	0.136 (0.536)
		Self-employed*Stayers in and Lasting Movers to Escalators	x	-0.235 (0.651)	x	x	-0.18 (0.655)	-0.201 (0.653)
		Fragmented careers*Temporary Movers	x	-1.239* (0.715)	x	x	-1.214* (0.721)	-1.221* (0.718)
		Part-timers*Temporary Movers	x	-0.634 (0.709)	x	x	-0.598 (0.714)	-0.589 (0.712)
		Self-employed*Temporary Movers	x	-0.561 (0.802)	x	x	-0.515 (0.81)	-0.501 (0.806)
	Constant		-1.4*** (0.118)	-1.8*** (0.236)	-0.397 (0.776)	-0.282 (0.788)	-0.443 (0.814)	-0.154 (0.614)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Downward					
			Migration only	Migration interaction	M1	M1 +Migration		M2
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.419 (0.439)	0.094 (0.288)	0.084 (0.29)	0.521 (0.443)	0.498 (0.442)
		Part-timers	x	0.9** (0.416)	0.841*** (0.314)	0.832*** (0.318)	1.175*** (0.449)	1.177*** (0.449)
		Self-employed	x	0.384 (0.573)	0.674** (0.334)	0.677** (0.336)	0.444 (0.576)	0.425 (0.575)
	Unemployment rate	%	x	x	0.04 (0.039)	0.041 (0.04)	0.042 (0.041)	x
	Ratio of professional workers	%	x	x	-0.134 (0.101)	-0.146 (0.103)	-0.145 (0.104)	x
	Gender (ref: Female)	Male	x	x	0.409* (0.244)	0.428* (0.246)	0.428* (0.251)	0.433* (0.249)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	0.13 (0.267)	0.465 (0.541)	x	0.142 (0.283)	0.401 (0.548)	0.424 (0.543)
		Stayers in and Lasting Movers to Escalators	-0.342 (0.271)	-0.105 (0.534)	x	-0.385 (0.278)	-0.182 (0.539)	-0.075 (0.535)
		Temporary Movers	0.084 (0.323)	0.92 (0.635)	x	0.005 (0.328)	0.893 (0.639)	0.884 (0.636)
	Migration* typology (ref: Stayers in Non-escalators * Stable)	Fragmented careers* Complex Movers	x	-0.874 (0.747)	x	x	-0.876 (0.75)	-0.821 (0.748)
		Part-timers* Complex Movers	x	-0.299 (0.714)	x	x	-0.246 (0.718)	-0.262 (0.715)
		Self-employed*	x	0.597	x	x	0.659	0.7

		Complex Movers		(0.917)			(0.925)	(0.922)
		Fragmented careers* Stayers in and Lasting Movers to Escalators	x	-0.675 (0.762)	x	x	-0.657 (0.765)	-0.725 (0.763)
		Part-timers* Stayers in and Lasting Movers to Escalators	x	-0.549 (0.754)	x	x	-0.572 (0.758)	-0.623 (0.756)
		Self-employed* Stayers in and Lasting Movers to Escalators	x	0.842 (0.842)	x	x	0.807 (0.848)	0.762 (0.845)
		Fragmented careers* Temporary Movers	x	-0.762 (0.878)	x	x	-0.716 (0.885)	-0.703 (0.88)
		Part-timers* Temporary Movers	x	-1.472* (0.862)	x	x	-1.444* (0.867)	-1.467* (0.864)
		Self-employed *Temporary Movers	x	-1.031 (1.082)	x	x	-0.999 (1.089)	-1.007 (1.084)
	Constant		-2.173*** (0.156)	-2.625*** (0.327)	-1.972* (1.072	-1.818* (1.087)	-2.051* (1.126)	-2.918*** (0.374)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Appendix J: Modelling Results Tables Summarised in Chapter 8

Explanatory variables			Stable careers								
			Education only	M2	M2 +Education					Full model	M3
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	-0.537 *** (0.198)	-0.528 ** (0.205)	-0.454 ** (0.2)	-0.537 *** (0.199)	-0.542 *** (0.203)	-0.537 *** (0.203)	-0.455 ** (0.216)	-0.463 ** (0.208)
		Ns-Sec 3 and 4	x	-0.607 *** (0.22)	-0.607 *** (0.222)	-0.594 *** (0.223)	-0.615 *** (0.221)	-0.517 ** (0.226)	-0.659 *** (0.237)	-0.597 ** (0.245)	-0.594 ** (0.242)
		Ns-Sec 5-7	x	-0.087 (0.234)	-0.088 (0.239)	-0.099 (0.239)	-0.124 (0.234)	0.023 (0.241)	-0.136 (0.248)	-0.11 (0.258)	-0.104 (0.253)
	Gender (ref: Female)	Male	x	1.217 *** (0.159)	1.221 *** (0.158)	1.041 *** (0.164)	1.166 *** (0.161)	1.266 *** (0.17)	1.394 *** (0.176)	1.212 *** (0.184)	1.201 *** (0.184)
	Importance of family life (ref: very interested)	Quite interested	x	0.203 (0.278)	0.2 (0.28)	0.103 (0.287)	0.166 (0.279)	0.173 (0.299)	0.16 (0.314)	0.053 (0.331)	0.056 (0.329)
		Not interested or sure	x	0.611 ** (0.243)	0.61 ** (0.244)	0.534 ** (0.251)	0.566 ** (0.241)	0.593 ** (0.262)	0.692 ** (0.266)	0.575 * (0.282)	0.573 ** (0.278)
	Ability (Maths)	Friendly Maths Test	x	0.023 ** (0.01)	0.023 ** (0.011)	0.018 * (0.01)	0.024 ** (0.011)	0.025 ** (0.011)	0.025 ** (0.01)	0.022 * (0.011)	0.022 ** (0.01)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	-0.239 (0.2)	-0.242 (0.2)	-0.167 (0.205)	-0.246 (0.201)	-0.174 (0.211)	-0.154 (0.213)	-0.111 (0.221)	-0.116 (0.221)
		Stayers in and Lasting Movers to Escalators	x	-0.076 (0.172)	-0.079 (0.173)	0.005 (0.176)	-0.067 (0.174)	-0.045 (0.18)	-0.017 (0.184)	0.035 (0.189)	0.039 (0.189)
		Temporary Movers	x	-0.838 ***	-0.841 ***	-0.822 ***	-0.839 ***	-0.876 ***	-0.764 ***	-0.8 ***	-0.795 ***

				(0.261)	(0.261)	(0.262)	(0.262)	(0.271)	(0.272)	(0.276)	(0.275)
Education	Institution (ref: post 92)	Pre-92 universities	-0.032 (0.214)	x	-0.116 (0.235)	x	x	x	x	-0.143 (0.241)	x
		Old universities	0.181 (0.203)	x	-0.016 (0.226)	x	x	x	x	-0.043 (0.238)	x
	Field of study (ref: STEM)	COMB	-1 *** (0.305)	x	x	-0.753 ** (0.331)	x	x	x	-0.72 ** (0.354)	-0.731 ** (0.357)
		LEM	-0.089 (0.215)	x	x	0.079 (0.234)	x	x	x	0.003 (0.252)	0.017 (0.247)
		OSSAH	-1.322 *** (0.183)	x	x	-0.892 *** (0.203)	x	x	x	-0.737 *** (0.217)	-0.739 *** (0.219)
	Grade (ref: First or 2:1)	2:2	0.273 (0.167)	x	x	x	0.232 (0.192)	x	x	0.263 (0.196)	0.269 (0.195)
		Third or pass	0.882 *** (0.227)	x	x	x	0.574 ** (0.252)	x	x	0.246 (0.275)	0.268 (0.272)
	Number of spells (ref: one spell)	Multiple spells	-1.524 *** (0.165)	x	x	x	x	-1.588 *** (0.177)	x	-0.69 *** (0.216)	-0.694 *** (0.215)
	Timing	Age	-0.207 *** (0.023)	x	x	x	x	x	-0.245 *** (0.028)	-0.185 *** (0.032)	-0.183 *** (0.032)
	Constant		-	-2.514 *** (0.571)	-2.482 *** (0.557)	-0.892 *** (0.203)	-2.656 *** (0.599)	-2.193 *** (0.599)	2.971 *** (0.816)	2.246 ** (0.934)	2.168 *** (0.912)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Part-timers								
			Education only	M2	M2 +Education					Full model	M3
Control	Gender (ref: Female)	Male	x	-2.644 *** (0.272)	-2.648 *** (0.274)	-2.529 *** (0.275)	-2.61 *** (0.273)	-2.642 *** (0.272)	-2.644 *** (0.272)	-2.507 *** (0.279)	-2.508 *** (0.278)
	Importance of family life (ref: very interested)	Quite interested	x	-1.24 *** (0.353)	-1.25 *** (0.348)	-1.171 *** (0.355)	-1.239 *** (0.351)	-1.24 *** (0.353)	-1.24 *** (0.353)	-1.189 *** (0.348)	-1.187 *** (0.348)
		Not interested or sure	x	-0.873 *** (0.235)	-0.891 *** (0.235)	-0.827 *** (0.239)	-0.845 *** (0.235)	-0.873 *** (0.235)	-0.873 *** (0.235)	-0.822 *** (0.24)	-0.822 *** (0.241)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	-0.342 (0.225)	-0.323 (0.227)	-0.398 * (0.229)	-0.347 (0.226)	-0.347 (0.226)	-0.342 (0.225)	-0.373 (0.232)	-0.379 (0.232)
		Stayers in and Lasting Movers to Escalators	x	-0.325 (0.205)	-0.314 (0.207)	-0.366 * (0.208)	-0.344 * (0.207)	-0.325 (0.205)	-0.325 (0.205)	-0.372 * (0.212)	-0.374 * (0.212)
		Temporary Movers	x	0.467 ** (0.254)	0.491 * (0.254)	0.497 * (0.256)	0.463 * (0.255)	0.467 * (0.254)	0.467 * (0.254)	0.506 * (0.258)	0.506 * (0.258)
Education	Institution (ref: post 92)	Pre-92 universities	0.041 (0.216)	x	0.147 (0.26)	x	x	x	x	0.055 (0.253)	0.064 (0.252)
		Old universities	-0.403 ** (0.198)	x	-0.347 (0.223)	x	x	x	x	-0.35 (0.224)	-0.345 (0.225)
		COMB	0.746	x	x	0.427	x	x	x	0.343	0.34

	Field of study (ref: STEM)		** (0.305)			(0.349)				(0.352)	(0.35)
		LEM	0.116 (0.248)	x	x	-0.123 (0.277)	x	x	x	-0.2 (0.284)	-0.193 (0.284)
		OSSAH	1.132 *** (0.179)	x	x	0.519 ** (0.212)	x	x	x	0.475 ** (0.225)	0.462 ** (0.222)
	Grade (ref: First or 2:1)	2:2	-0.319 * (0.167)	x	x	x	-0.218 (0.19)	x	x	-0.277 (0.193)	-0.269 (0.192)
		Third or pass	-1.021 *** (0.313)	x	x	x	-0.505 ** (0.341)	x	x	-0.472 ** (0.346)	-0.454 ** (0.343)
	Number of spells (ref: one spell)	Multiple spells	0.16 (0.144)	x	x	x	x	0.053 (0.166)	x	-0.02 (0.207)	x
	Timing	Age	0.006 (0.014)	x	x	x	x	x	0.001 (0.016)	-0.008 (0.02)	x
	Constant		-	0.168 (0.163)	0.231 (0.208)	-0.12 (0.222)	0.264 (0.174)	0.147 (0.176)	0.153 (0.413)	0.332 (0.508)	0.119 (0.27)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Self-employed								
			Education only	M2	M2 +Education					Full model	M3
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	0.307 (0.275)	0.341 (0.276)	0.227 (0.275)	0.306 (0.274)	0.3 (0.275)	0.299 (0.274)	0.275 (0.277)	0.27 (0.277)
		Ns-Sec 3 and 4	x	0.731 ** (0.291)	0.833 *** (0.299)	0.703 ** (0.294)	0.73 ** (0.291)	0.713 ** (0.292)	0.723 ** (0.291)	0.796 *** (0.304)	0.801 *** (0.303)
		Ns-Sec 5-7	x	-0.335 (0.429)	-0.251 (0.432)	-0.366 (0.427)	-0.311 (0.43)	-0.352 (0.431)	-0.339 (0.429)	-0.268 (0.435)	-0.279 (0.43)
	Gender (ref: Female)	Male	x	0.504 ** (0.223)	0.485 ** (0.224)	0.705 *** (0.234)	0.55 ** (0.225)	0.511 ** (0.223)	0.509 ** (0.223)	0.707 *** (0.233)	0.679 *** (0.233)
	Importance of family life (ref: very interested)	Not interested or sure	x	0.468 (0.3)	0.475 (0.298)	0.574 * (0.317)	0.493 (0.3)	0.473 (0.299)	0.47 (0.299)	0.594 * (0.312)	0.581 * (0.314)
		Quite interested	x	-0.521 *** (0.26)	-0.513 * (0.262)	-0.435 (0.265)	-0.493 * (0.262)	-0.514 ** (0.26)	-0.522 ** (0.26)	-0.409 (0.267)	-0.427 (0.267)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	-0.513 * (0.3)	-0.558 * (0.303)	-0.582 * (0.304)	-0.508 * (0.3)	-0.522 * (0.3)	-0.523 * (0.3)	-0.628 ** (0.308)	-0.622 ** (0.307)
		Stayers in and Lasting Movers to Escalators	x	-0.027 (0.244)	-0.008 (0.245)	-0.113 (0.249)	-0.037 (0.244)	-0.034 (0.244)	-0.037 (0.244)	-0.112 (0.251)	-0.099 (0.251)
		Temporary Movers	x	0.684 ** (0.288)	0.719 ** (0.292)	0.651 ** (0.293)	0.687 ** (0.289)	0.682 ** (0.288)	0.681 ** (0.288)	0.676 ** (0.297)	0.684 ** (0.297)

Education	Institution (ref: post 92)	Pre-92 universities	0.591 ** (0.324)	x	0.639 * (0.34)	x	x	x	x	0.56 * (0.345)	0.581 * (0.341)
		Old universities	0.526 *** (0.249)	x	0.57 ** (0.263)	x	x	x	x	0.544 ** (0.263)	0.544 ** (0.264)
	Field of study (ref: STEM)	COMB	-0.08 (0.446)	x	x	0.078 0.474	x	x	x	0.071 (0.485)	0.083 (0.482)
		LEM	-0.586 * (0.349)	x	x	-0.449 0.359	x	x	x	-0.411 (0.369)	-0.378 (0.365)
		OSSAH	0.326 (0.227)	x	x	0.688 *** (0.263)	x	x	x	0.646 ** (0.271)	0.689 ** (0.265)
	Grade (ref: First or 2:1)	2:2	-0.107 (0.25)	x	x	x	-0.17 (0.261)	x	x	-0.145 (0.262)	x
		Third or pass	-0.402 (0.36)	x	x	x	-0.48 (0.384)	x	x	-0.372 (0.394)	x
	Number of spells (ref: one spell)	Multiple spells	0.154 (0.193)	x	x	x	x	0.174 (0.201)	x	0.038 (0.249)	x
	Timing	Age	0.013 (0.019)	x	x	x	x	x	0.016 (0.02)	0.005 (0.024)	x
	Constant		-	-2.475 *** (0.286)	-2.899 *** (0.353)	-2.791 *** (0.352)	-2.414 *** (0.29)	-2.538 *** (0.295)	-2.846 *** (0.549)	-3.25 *** (0.685)	-3.197 *** (0.405)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Fragmented careers								
			Education only	M2	M2 +Education					Full model	M3
	Ratio of professional workers	%	x	0.105 * (0.057)	0.106 * (0.058)	0.105 * (0.058)	0.105 * (0.058)	0.078 (0.059)	0.108 * (0.059)	0.093 (0.060)	0.091 (0.060)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	0.432 ** (0.189)	0.449 ** (0.196)	0.436 ** (0.190)	0.427 ** (0.190)	0.427 ** (0.190)	0.419 ** (0.189)	0.470 ** (0.199)	0.420 ** (0.190)
		Ns-Sec 3 and 4	x	0.192 (0.222)	0.189 (0.223)	0.191 (0.223)	0.190 (0.221)	0.103 (0.225)	0.156 (0.226)	0.128 (0.230)	0.113 (0.227)
		Ns-Sec 5-7	x	0.383 * (0.226)	0.380 (0.236)	0.408 * (0.230)	0.387 * (0.226)	0.307 (0.231)	0.385 (0.233)	0.379 (0.248)	0.335 (0.234)
	Importance of family life (ref: very interested)	Not interested or sure	x	0.443 * (0.245)	0.444 * (0.246)	0.462 * (0.250)	0.451 * (0.248)	0.515 * (0.269)	0.508 * (0.271)	0.489 * (0.283)	0.530 * (0.278)
		Quite interested	x	0.450 ** (0.209)	0.449 ** (0.212)	0.462 ** (0.215)	0.455 ** (0.210)	0.529 ** (0.220)	0.496 ** (0.223)	0.504 ** (0.237)	0.530 ** (0.225)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	0.587 *** (0.178)	0.588 *** (0.179)	0.576 *** (0.179)	0.588 *** (0.178)	0.550 *** (0.184)	0.578 *** (0.184)	0.561 *** (0.188)	0.559 *** (0.186)
		Stayers in and Lasting Movers to Escalators	x	0.314 * (0.163)	0.302 * (0.164)	0.307 * (0.164)	0.309 * (0.163)	0.310 * (0.168)	0.279 * (0.169)	0.289 * (0.172)	0.289 * (0.170)

		Temporary Movers	x	-0.094 (0.229)	-0.111 (0.230)	-0.076 (0.230)	-0.096 (0.230)	-0.127 (0.237)	-0.104 (0.235)	-0.111 (0.240)	-0.117 (0.237)
Education	Institution (ref: post 92)	Pre 92 universities	-0.280 (0.192)	x	-0.301 (0.199)	x	x	x	x	-0.204 (0.223)	x
		Old universities	-0.082 (0.186)	x	-0.060 (0.199)	x	x	x	x	0.031 (0.208)	x
	Field of study (ref: STEM)	COMB	0.400 (0.296)	x	x	0.422 (0.304)	x	x	x	0.394 (0.319)	x
		LEM	0.230 (0.222)	x	x	0.239 (0.230)	x	x	x	0.334 (0.246)	x
		OSSAH	0.068 (0.161)	x	x	0.085 (0.169)	x	x	x	-0.111 (0.189)	x
	Grade (ref: First or 2:1)	2:2	0.067 (0.161)	x	x	x	0.026 (0.166)	x	x	0.135 (0.173)	x
		Third or pass	-0.019 (0.232)	x	x	x	-0.083 (0.244)	x	x	0.177 (0.257)	x
	Number of spells (ref: one spell)	Multiple spells	1.047 *** (0.134)	x	x	x	x	1.067 *** (0.140)	x	0.687 *** (0.172)	0.644 *** (0.168)
	Timing	Age	0.109 *** (0.014)	x	x	x	x	x	0.111 *** (0.014)	0.078 *** (0.017)	0.074 *** (0.017)
	Constant		-	-2.348 *** (0.554)	-2.260 *** (0.577)	-2.468 *** (0.576)	-2.345 *** (0.560)	-2.569 *** (0.570)	-5.093 *** (0.682)	-4.536 *** (0.769)	-4.326 *** (0.708)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Lateral linear																
			Education only	Education interaction				M2	M2 + Education									Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	-0.557 * (0.296)	-0.557 ** (0.276)	-0.622 *** (0.228)	0.942 (1.37)	-0.665 *** (0.192)	-0.663 *** (0.191)	-0.521 * (0.313)	-0.596 *** (0.198)	-0.622 *** (0.193)	-0.524 * (0.282)	-0.327 (0.201)	-0.584 ** (0.236)	-0.598 *** (0.2)	0.422 (1.415)	3.216 * (1.736)	2.68 (1.629)
		Part-timers	x	-0.057 (0.3)	0.118 (0.254)	0.005 (0.21)	3.336 ** (1.433)	-0.123 (0.189)	-0.113 (0.19)	-0.057 (0.309)	-0.003 (0.202)	-0.031 (0.192)	0.121 (0.26)	0.103 (0.195)	-0.009 (0.217)	-0.083 (0.192)	3 ** (1.484)	5.31 *** (1.805)	4.883 ** (1.719)
		Self-employed	x	-0.149 (0.452)	0.002 (0.333)	-0.091 (0.279)	1.911 (1.653)	-0.123 (0.244)	-0.138 (0.244)	-0.086 (0.46)	-0.081 (0.25)	-0.059 (0.246)	-0.029 (0.34)	0.102 (0.251)	-0.122 (0.292)	-0.081 (0.247)	1.398 (1.697)	3.451 (2.119)	3.35 * (1.978)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	x	x	x	-0.157 (0.197)	-0.139 (0.197)	-0.132 (0.199)	-0.166 (0.203)	-0.132 (0.199)	-0.136 (0.201)	-0.174 (0.2)	-0.146 (0.202)	-0.16 (0.197)	-0.162 (0.197)	-0.122 (0.215)	-0.128 (0.213)
		Ns-Sec 3 and 4	x	x	x	x	x	-0.564 *** (0.244)	-0.538 *** (0.243)	-0.527 *** (0.243)	-0.548 *** (0.249)	-0.555 *** (0.245)	-0.57 *** (0.248)	-0.533 *** (0.247)	-0.522 *** (0.248)	-0.566 *** (0.244)	-0.575 *** (0.246)	-0.478 * (0.26)	-0.491 * (0.257)
		Ns-Sec 5-7	x	x	x	x	x	-0.351 (0.243)	-0.323 (0.246)	-0.324 (0.249)	-0.416 * (0.247)	-0.388 (0.245)	-0.389 (0.245)	-0.32 (0.248)	-0.322 (0.249)	-0.356 (0.243)	-0.353 (0.244)	-0.339 (0.262)	-0.353 (0.257)
	Ability (Vocabulary)	Raw Vocabulary Test score	x	x	x	x	x	0.018 * (0.01)	0.017 (0.01)	0.018 (0.011)	0.018 * (0.01)	0.019 * (0.01)	0.019 * (0.01)	0.019 * (0.011)	0.02 * (0.011)	0.018 * (0.01)	0.018 * (0.01)	0.019 (0.012)	0.019 (0.011)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	x	x	x	x	-0.338 (0.213)	-0.353 (0.214)	-0.361 * (0.215)	-0.284 (0.217)	-0.338 (0.215)	-0.334 (0.217)	-0.31 (0.217)	-0.294 (0.218)	-0.336 (0.213)	-0.348 (0.214)	-0.256 (0.228)	-0.254 (0.224)
		Stayers in and Lasting Movers to Escalators	x	x	x	x	x	-0.111 (0.182)	-0.112 (0.183)	-0.111 (0.183)	-0.072 (0.186)	-0.083 (0.185)	-0.082 (0.186)	-0.102 (0.186)	-0.083 (0.187)	-0.104 (0.183)	-0.105 (0.184)	-0.05 (0.195)	-0.061 (0.194)
		Temporary Movers	x	x	x	x	x	0.374 * (0.226)	0.378 * (0.226)	0.383 * (0.226)	0.32 (0.229)	0.381 * (0.228)	0.396 * (0.228)	0.369 (0.232)	0.396 * (0.233)	0.375 * (0.226)	0.354 (0.227)	0.33 (0.24)	0.306 (0.239)
Education	Institution (ref: post 92)	Pre-92 universities	0.143 (0.188)	0.184 (0.347)	x	x	x	x	0.081 (0.199)	0.173 (0.357)	x	x	x	x	x	x	x	0.41 (0.377)	x
		Old universities	0.273 (0.171)	0.369 (0.307)	x	x	x	x	0.176 (0.194)	0.286 (0.336)	x	x	x	x	x	x	x	0.26 (0.379)	x
		COMB	-0.721 **	x	x	x	x	x	x	x	-0.664 **	x	x	x	x	x	x	-0.566 *	-0.575 *

	Field of study (ref: STEM)		(0.299)								(0.308)						(0.322)	(0.316)
		LEM	-1.022 *** (0.244)	x	x	x	x	x	x	x	-0.985 *** (0.244)	x	x	x	x	x	x	-0.97 *** (0.258)	-0.995 *** (0.254)
		OSSAH	-0.579 *** (0.166)	x	x	x	x	x	x	x	-0.528 *** (0.181)	x	x	x	x	x	x	-0.424 ** (0.199)	-0.427 ** (0.191)
	Grade (ref: First or 2:1)	2:2	-0.01 (0.173)	x	0.091 (0.313)	x	x	x	x	x	x	0.003 (0.178	0.076 (0.322)	x	x	x	x	-0.027 (0.351)	-0.063 (0.187)
		Third or pass	0.652 *** (0.227)	x	0.907 ** (0.354)	x	x	x	x	x	x	0.688 *** (0.236)	0.932 ** (0.362)	x	x	x	x	0.601 (0.388)	0.395 (0.252)
	Number of spells (ref: one spell)	Multiple spells	-1.108 *** (0.167)	x	x	-2.654 *** (0.731)	x	x	x	x	x	x	x	-1.025 *** (0.177)	-2.69 *** (0.735)	x	x	-3.26 *** (0.774)	-3.241 *** (0.773)
	Timing	Age	-0.033 ** (0.016)	x	x	x	0.077 (0.054)	x	x	x	x	x	x	x	x	-0.019 0.017	0.055 (0.056)	0.206 *** (0.069)	0.198 *** (0.066)
Education Interactions	Institution* typology (ref: post 92*Stable)	Fragmented* Pre-92	x	-0.354 (0.553)	x	x	x	x	x	-0.345 (0.582)	x	x	x	x	x	x	x	-0.636 (0.591)	x
		Part-timers* Pre-92	x	0.054 (0.504)	x	x	x	x	x	0.018 (0.509)	x	x	x	x	x	x	x	-0.28 (0.538)	x
		Self-employed* Pre-92	x	-0.017 (0.665)	x	x	x	x	x	-0.145 (0.681)	x	x	x	x	x	x	x	-0.433 (0.699)	x
		Fragmented* Old	x	-0.241 (0.446)	x	x	x	x	x	-0.202 (0.465)	x	x	x	x	x	x	x	-0.399 (0.501)	x
		Part-timers* Old	x	-0.172 (0.485)	x	x	x	x	x	-0.207 (0.503)	x	x	x	x	x	x	x	-0.163 (0.53)	x
		Self-employed* Old	x	0.007 (0.636)	x	x	x	x	x	-0.066 (0.634)	x	x	x	x	x	x	x	-0.052 (0.685)	x
	Grade* typology (ref: First or 2:1*Stable)	Fragmented* 2:2	x	x	-0.176 (0.457)	x	x	x	x	x	x	x	-0.13 (0.473)	x	x	x	x	-0.11 (0.509)	x
		Part-timers* 2:2	x	x	-0.19 (0.439)	x	x	x	x	x	x	x	-0.193 (0.449)	x	x	x	x	-0.11 (0.483)	x
		Self-employed* 2:2	x	x	0.073 (0.56)	x	x	x	x	x	x	x	0.155 (0.571)	x	x	x	x	0.262 (0.606)	x
		Fragmented* Pass or third	x	x	-0.344 (0.556)	x	x	x	x	x	x	x	-0.276 (0.581)	x	x	x	x	-0.249 (0.614)	x
		Part-timers* Pass or third	x	x	-0.699 (0.656)	x	x	x	x	x	x	x	-0.811 (0.67)	x	x	x	x	-0.528 (0.721)	x

		Self-employed* Pass or third	x	x	-0.436 (0.792)	x	x	x	x	x	x	x	-0.405 (0.811)	x	x	x	x	-0.296 (0.883)	x
	Number of spells* typology (ref: one spell*Stable)	Fragmented careers* Multiple spells	x	x	x	1.97 ** (0.785)	x	x	x	x	x	x	x	x	2.026 ** (0.79)	x	x	2.301 *** (0.854)	2.314 *** (0.85)
		Part-timers* Multiple spells	x	x	x	1.64 ** (0.793)	x	x	x	x	x	x	x	x	1.684 ** (0.797)	x	x	2.296 *** (0.869)	2.288 *** (0.868)
		Self-employed* Multiple spells	x	x	x	1.933 ** (0.849)	x	x	x	x	x	x	x	x	2.024 ** (0.857)	x	x	2.415 ** (0.969)	2.428 ** (0.966)
	Timing* typology (ref: Stable)	Fragmented* Age	x	x	x	x	-0.075 (0.059)	x	x	x	x	x	x	x	x	x	-0.05 (0.061)	-0.157 ** (0.075)	-0.149 ** (0.073)
		Part-timers* Age	x	x	x	x	-0.15** (0.063)	x	x	x	x	x	x	x	x	x	-0.135 ** (0.065)	-0.226 *** (0.08)	-0.217 *** (0.078)
		Self-employed* Age	x	x	x	x	-0.09 (0.071)	x	x	x	x	x	x	x	x	x	-0.067 (0.073)	-0.16 * (0.091)	-0.159 * (0.088)
	Constant		-	-1.037 *** (0.204)	-1.081 *** (0.194)	-0.623 *** (0.127)	-2.558 ** (1.208)	-1.495 *** (0.54)	-1.547 *** (0.557)	-1.62 ** (0.593)	-1.164 ** (0.551)	-1.675 *** 0.549)	-1.755 *** 0.554)	-1.422 ** 0.564)	-1.394 ** 0.569)	-1.095 * 0.645)	-2.701 ** (1.303)	-5.821 *** (1.619)	-5.381 *** (1.536)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Lateral Non-linear																	
			Education only	Education interaction					M2	M2 + Education									Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	-0.02 (0.37)	0.57 (0.35)	0.139 (0.28)	0.537 ** (0.27)	2.09 (1.72)	0.255 (0.21)	0.248 (0.22)	-0.068 (0.33)	0.221 (0.22)	0.493 (0.35)	0.235 (0.22)	0.084 (0.29)	0.336 (0.22)	0.458 * (0.27)	0.357 (0.22)	1.912 (1.74)	1.43 (2.01)	0.297 (0.41)
		Part-timers	x	0.641 ** (0.31)	0.268 (0.45)	0.156 (0.29)	0.644 ** (0.26)	1.24 (1.74)	0.476 ** (0.22)	0.45 ** (0.22)	0.604 * (0.31)	0.433 * (0.23)	0.225 (0.45)	0.431 * (0.23)	0.1 (0.29)	0.53 ** (0.23)	0.628 ** (0.26)	0.534 ** (0.23)	1.104 (1.76)	-0.071 (2.05)	-0.191 (0.5)
		Self-employed	x	-0.766 (0.64)	-0.467 (0.65)	0.06 (0.37)	0.364 (0.35)	2.454 (2.27)	0.03 (0.30)	0.052 (0.3)	-0.884 (0.65)	0.024 (0.31)	-0.53 (0.65)	-0.003 (0.30)	-0.035 (0.37)	0.082 (0.30)	0.275 (0.36)	0.092 (0.3)	2.338 (2.34)	-1.255 (2.89)	-0.776 (0.74)
	Ratio of professional workers	%	x	x	x	x	x	x	0.133 ** (0.07)	0.131 * (0.07)	0.128 * (0.07)	0.131 * (0.07)	0.136 ** (0.07)	0.13 * (0.07)	0.126 * (0.07)	0.138 ** (0.07)	0.144 ** (0.07)	0.132 * (0.07)	0.133 ** (0.07)	0.134 * (0.07)	0.127 * (0.07)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	x	x	x	x	0.386 * (0.22)	0.34 (0.23)	0.346 (0.23)	0.394 * (0.23)	0.409 * (0.23)	0.382 * (0.23)	0.405 * (0.23)	0.383 * (0.23)	0.369 * (0.22)	0.382 * (0.22)	0.388 * (0.22)	0.392 * (0.24)	0.388 * (0.23)
		Ns-Sec 3 and 4	x	x	x	x	x	x	0.334 (0.28)	0.275 (0.28)	0.286 (0.29)	0.324 (0.28)	0.34 (0.28)	0.334 (0.28)	0.361 (0.28)	0.346 (0.28)	0.341 (0.28)	0.332 (0.28)	0.348 (0.28)	0.307 (0.3)	0.306 (0.29)
		Ns-Sec 5-7	x	x	x	x	x	x	-0.165 (0.33)	-0.227 (0.33)	-0.228 (0.33)	-0.135 (0.33)	-0.152 (0.33)	-0.149 (0.33)	-0.144 (0.33)	-0.154 (0.33)	-0.153 (0.33)	-0.173 (0.33)	-0.15 (0.33)	-0.182 (0.34)	-0.196 (0.34)
Education	Institution (ref: post 92)	Pre-92 universities	-0.07 (0.22)	-0.163 (0.41)	x	x	x	x	x	-0.087 (0.22)	-0.169 (0.42)	x	x	x	x	x	x	x	x	-0.273 (0.43)	-0.062 (0.23)
		Old universities	-0.435 ** (0.21)	-0.748 * (0.42)	x	x	x	x	x	-0.389 * (0.21)	-0.738 * (0.42)	x	x	x	x	x	x	x	x	-0.718 * (0.43)	-0.356 (0.22)
	Field of study (ref: STEM)	COMB	0.403 (0.34)	x	0.507 (0.68)	x	x	x	x	x	x	0.302 (0.34)	0.432 (0.68)	x	x	x	x	x	x	0.465 (0.69)	0.47 (0.69)
		LEM	0.555** * (0.24)	x	0.477 (0.41)	x	x	x	x	x	x	0.518** * (0.24)	0.463 (0.41)	x	x	x	x	x	x	0.243 (0.43)	0.268 (0.42)
		OSSAH	0.41 * (0.21)	x	0.428 (0.43)	x	x	x	x	x	x	0.283 (0.22)	0.402 (0.43)	x	x	x	x	x	x	0.223 (0.45)	0.281 (0.44)
	Grade (ref: First or 2:1)	2:2	-0.117 (0.2)	x	x	-0.337 (0.39)	x	x	x	x	x	x	x	-0.098 (0.2)	-0.358 (0.4)	x	x	x	x	-0.421 (0.41)	-0.386 (0.4)
		Third or pass	-0.521 * (0.31)	x	x	-1.098 * (0.64)	x	x	x	x	x	x	x	-0.392 (0.31)	-1.037 (0.64)	x	x	x	x	-0.955 (0.67)	-0.958 (0.6)

	Number of spells (ref: one spell)	Multiple spells	-0.099 (0.17)	x	x	x	0.262 (0.41)	x	x	x	x	x	x	x	x	-0.221 (0.18)	0.255 (0.41)	x	x	0.195 (0.47)	x
	Timing	Age	-0.018 (0.02)	x	x	x	x	0.027 (0.07)	x	x	X	x	x	x	x	x	x	-0.028 (0.02)	0.023 (0.07)	0.01 (0.08)	x
Education Interactions	Institution* typology (ref: post 92*Stable)	Fragmented* Pre-92	x	0.505 (0.58)	x	x	x	x	x	x	0.422 (0.6)	x	x	x	x	x	x	x	x	0.453 (0.61)	x
		Part-timers* Pre-92	x	-0.605 (0.57)	x	x	x	x	x	x	-0.6 (0.57)	x	x	x	x	x	x	x	x	-0.314 (0.59)	x
		Self-employed* Pre-92	x	1.249 (0.83)	x	x	x	x	x	x	1.309 (0.83)	x	x	x	x	x	x	x	x	1.405 (0.91)	x
		Fragmented* Old	x	0.737 (0.54)	x	x	x	x	x	x	0.755 (0.54)	x	x	x	x	x	x	x	x	0.711 (0.55)	x
		Part-timers* Old	x	-0.119 (0.59)	x	x	x	x	x	x	-0.131 (0.59)	x	x	x	x	x	x	x	x	-0.049 (0.61)	x
		Self-employed* Old	x	1.37 (0.87)	x	x	x	x	x	x	1.394 (0.88)	x	x	x	x	x	x	x	x	1.358 (0.97)	x
	Field of study *typology (ref: one STEM*Stable)	Fragmented careers* COMB	x	x	-0.509 (0.87)	x	x	x	x	x	x	x	-0.429 (0.89)	x	x	x	x	x	x	-0.592 (0.9)	-0.536 (0.89)
		Part-timers* COMB	x	x	-0.479 (1.01)	x	x	x	x	x	x	x	-0.434 (1.02)	x	x	x	x	x	x	-0.605 (1.05)	-0.535 (1.03)
		Self-employed* COMB	x	x	1.403 (1.19)	x	x	x	x	x	x	x	1.505 (1.19)	x	x	x	x	x	x	1.559 (1.29)	1.378 (1.21)
		Fragmented* LEM	x	x	-0.537 (0.59)	x	x	x	x	x	x	x	-0.557 (0.59)	x	x	x	x	x	x	-0.429 (0.6)	-0.437 (0.59)
		Part-timers* LEM	x	x	1.094 * (0.66)	x	x	x	x	x	x	x	1.134 * (0.66)	x	x	x	x	x	x	1.19 * (0.68)	1.278 * (0.67)
		Self-employed* LEM	x	x	-0.344 (1.28)	x	x	x	x	x	x	x	-0.474 (1.28)	x	x	x	x	x	x	0.339 (1.39)	-0.247 (1.29)
		Fragmented careers* OSSAH	x	x	-0.429 (0.56)	x	x	x	x	x	x	x	-0.4 (0.57)	x	x	x	x	x	x	-0.178 (0.58)	-0.346 (0.57)
		Part-timers* OSSAH	x	x	0.005 (0.61)	x	x	x	x	x	x	x	0.003 (0.61)	x	x	x	x	x	x	0.098 (0.64)	0.081 (0.63)
		Self-employed* OSSAH	x	x	0.73 (0.81)	x	x	x	x	x	x	x	0.683 (0.81)	x	x	x	x	x	x	0.781 (0.88)	0.843 (0.84)
		Fragmented* 2:2	x	x	x	0.23 (0.5)	x	x	x	x	x	x	x	x	0.219 (0.5)	x	x	x	x	0.212 (0.52)	0.238 (0.51)

	Grade* typology (ref: First or 2:1*Stable)	Part-timers* 2:2	x	x	x	0.614 (0.52)	x	x	x	x	x	x	x	x	0.68 (0.52)	x	x	x	x	0.659 (0.54)	0.671 (0.53)
		Self-employed* 2:2	x	x	x	-0.192 (0.73)	x	x	x	x	x	x	x	x	-0.191 (0.73)	x	x	x	x	0.03 (0.77)	0.173 (0.75)
		Fragmented* Pass or third	x	x	x	0.725 (0.84)	x	x	x	x	x	x	x	x	0.684 (0.85)	x	x	x	x	0.453 (0.87)	0.6 (0.87)
		Part-timers* Pass or third	x	x	x	1.507 * (0.9)	x	x	x	x	x	x	x	x	1.519 * (0.91)	x	x	x	x	1.166 (0.93)	1.322 (0.92)
		Self-employed* Pass or third	x	x	x	0.447 (1.23)	x	x	x	x	x	x	x	x	0.467 (1.23)	x	x	x	x	0.545 (1.32)	0.792 (1.3)
	Number of spells* typology (ref: one spell*Stable)	Fragmented careers* Multiple spells	x	x	x	x	-0.584 (0.49)	x	x	x	x	x	x	x	x	x	-0.557 (0.5)	x	x	-0.314 (0.58)	x
		Part-timers* Multiple spells	x	x	x	x	-0.457 (0.51)	x	x	x	x	x	x	x	x	x	-0.519 (0.52)	x	x	-0.292 (0.62)	x
		Self-employed* Multiple spells	x	x	x	x	-0.769 (0.67)	x	x	x	x	x	x	x	x	x	-0.787 (0.68)	x	x	-0.82 (0.88)	x
	Timing* typology (ref: Stable)	Fragmented* Age	x	x	x	x	x	-0.073 (0.08)	x	x	x	x	x	x	x	x	x	x	-0.068 (0.077	-0.055 (0.09)	x
		Part-timers* Age	x	x	x	x	x	-0.032 (0.08)	x	x	x	x	x	x	x	x	x	x	-0.028 (0.078	0.002 (0.09)	x
		Self-employed* Age	x	x	x	x	x	-0.099 (0.1)	x	x	x	x	x	x	x	x	x	x	-0.098 (0.102	-0.008 (0.12)	x
	Constant		-	-1.586 *** (0.235	-2.09 *** (0.249	-1.592 *** (0.216	-1.893 *** (0.179	-2.454 (1.58)	-3.136 *** (0.63)	-2.936 *** (0.64)	-2.806 *** (0.66)	-3.341 *** (0.64)	-3.405 *** (0.68)	-3.017 *** (0.64)	-2.839 *** (0.66)	-3.153 *** (0.63)	-3.281 *** (0.64)	-2.508 *** (0.75)	-3.653 ** (1.72)	-3.009 (1.95)	-2.859 *** (0.72)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Upward Linear															
			Education only	Education interaction				M2	M2 + Education								Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.14 (0.27)	-0.32 (0.24)	-0.14 (0.23)	0.23 (1.28)	-0.57 ** (0.27)	-0.58 ** (0.27)	-0.31 (0.35)	-0.60 ** (0.27)	-0.61 ** (0.27)	-0.70 ** (0.32)	-0.91 *** (0.28)	-0.58 * (0.32)	-0.66 ** (0.28)	0.34 (1.30)	-1.44 (1.47)	-0.50 (0.45)
		Part-timers	x	-0.25 (0.29)	-0.48 * (0.25)	-0.82 *** (0.27)	-1.38 (1.35)	-0.81 *** (0.29)	-0.80 *** (0.29)	-0.47 (0.36)	-0.94 *** (0.30)	-0.88 *** (0.29)	-0.69 ** (0.33)	-1.04 *** (0.30)	-1.04 *** (0.34)	-0.86 *** (0.29)	-1.25 (1.38)	-2.04 (1.58)	-0.59 (0.45)
		Self-employed	x	-0.56 (0.47)	-0.65 * (0.34)	-0.44 (0.33)	-0.88 (1.61)	-0.10 (0.35)	-0.09 (0.35)	-0.23 (0.52)	-0.17 (0.35)	-0.15 (0.35)	-0.23 (0.43)	-0.34 (0.36)	-0.06 (0.42)	-0.17 (0.35)	0.18 (1.67)	-2.73 (2.03)	-0.46 (0.64)
	Industry (ref: Tertiary)	Primary	x	x	x	x	x	-0.19 (0.18)	-0.18 (0.18)	-0.19 (0.18)	-0.17 (0.18)	-0.17 (0.18)	-0.18 (0.18)	-0.20 (0.18)	-0.22 (0.18)	-0.20 (0.18)	-0.20 (0.18)	-0.19 (0.19)	-0.20 (0.19)
		Secondary	x	x	x	x	x	-0.39 ** (0.17)	-0.39 ** (0.17)	-0.39 ** (0.18)	-0.38 ** (0.18)	-0.36 ** (0.18)	-0.36 ** (0.18)	-0.36 ** (0.18)	-0.37 ** (0.18)	-0.39 ** (0.17)	-0.40 ** (0.17)	-0.33 * (0.18)	-0.33 * (0.18)
	Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	x	x	x	x	x	0.03 (0.20)	0.07 (0.20)	0.07 (0.21)	0.00 (0.20)	0.01 (0.20)	-0.02 (0.20)	0.03 (0.20)	0.01 (0.20)	0.03 (0.20)	0.03 (0.20)	-0.02 (0.21)	-0.01 (0.21)
		Ns-Sec 3 and 4	x	x	x	x	x	0.15 (0.22)	0.17 (0.22)	0.18 (0.22)	0.14 (0.22)	0.15 (0.22)	0.13 (0.22)	0.12 (0.22)	0.10 (0.22)	0.16 (0.22)	0.17 (0.22)	0.09 (0.23)	0.10 (0.23)
		Ns-Sec 5-7	x	x	x	x	x	0.42 * (0.21)	0.43 ** (0.22)	0.44 ** (0.22)	0.41 * (0.21)	0.44 ** (0.22)	0.43 ** (0.22)	0.38 * (0.22)	0.39 * (0.22)	0.42 * (0.21)	0.44 ** (0.22)	0.39 * (0.23)	0.42 * (0.23)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	x	x	x	x	-0.03 (0.34)	-0.05 (0.34)	-0.09 (0.34)	-0.03 (0.34)	-0.06 (0.34)	-0.07 (0.34)	-0.11 (0.34)	-0.18 (0.35)	-0.04 (0.34)	-0.04 (0.34)	-0.27 (0.36)	-0.27 (0.36)
		Stayers in and Lasting Movers to Escalators	x	x	x	x	x	-0.16 (0.28)	-0.18 (0.28)	-0.18 (0.29)	-0.18 (0.28)	-0.18 (0.29)	-0.19 (0.29)	-0.20 (0.29)	-0.23 (0.29)	-0.17 (0.28)	-0.17 (0.28)	-0.29 (0.30)	-0.30 (0.30)
		Temporary Movers	x	x	x	x	x	-0.79 (0.53)	-0.83 (0.53)	-0.80 (0.53)	-0.80 (0.53)	-0.85 (0.53)	-0.86 (0.54)	-0.86 (0.54)	-0.95 * (0.55)	-0.81 (0.53)	-0.84 (0.53)	-0.99 * (0.57)	-1.03 * (0.56)
	Migration* typology (ref: Stayers in Non-escalators * Stable)	Fragmented careers* Complex Movers	x	x	x	x	x	0.43 (0.46)	0.45 (0.46)	0.50 (0.46)	0.37 (0.46)	0.48 (0.46)	0.48 (0.46)	0.49 (0.46)	0.56 (0.47)	0.42 (0.46)	0.44 (0.46)	0.61 (0.48)	0.61 (0.48)
		Part-timers* Movers	x	x	x	x	x	0.27 (0.54)	0.31 (0.54)	0.38 (0.54)	0.24 (0.54)	0.29 (0.54)	0.28 (0.54)	0.29 (0.54)	0.34 (0.55)	0.28 (0.54)	0.30 (0.54)	0.42 (0.57)	0.42 (0.57)
		Self-employed* Complex Movers	x	x	x	x	x	-0.72 (0.78)	-0.71 (0.78)	-0.74 (0.80)	-0.82 (0.78)	-0.71 (0.79)	-0.67 (0.79)	-0.58 (0.79)	-0.55 (0.79)	-0.69 (0.78)	-0.68 (0.78)	-0.58 (0.83)	-0.57 (0.82)
		Fragmented careers* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	0.70 * (0.41)	0.72 * (0.41)	0.71 * (0.41)	0.66 (0.41)	0.69 * (0.41)	0.67 (0.41)	0.77 * (0.41)	0.78 * (0.41)	0.70 * (0.41)	0.71 * (0.41)	0.74 * (0.42)	0.74 * (0.42)
		Part-timers* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	0.32 (0.48)	0.33 (0.49)	0.32 (0.49)	0.32 (0.49)	0.32 (0.49)	0.33 (0.49)	0.35 (0.49)	0.39 (0.50)	0.30 (0.49)	0.26 (0.49)	0.44 (0.51)	0.44 (0.51)
		Self-employed*	x	x	x	x	x	-0.76 (0.64)	-0.73 (0.64)	-0.75 (0.64)	-0.78 (0.64)	-0.77 (0.64)	-0.75 (0.65)	-0.78 (0.65)	-0.72 (0.64)	-0.73 (0.64)	-0.72 (0.64)	-0.69 (0.67)	-0.73 (0.66)

		Stayers in and Lasting Movers to Escalators																	
		Fragmented careers* Temporary Movers	x	x	x	x	x	0.95 (0.69)	0.98 (0.69)	0.95 (0.70)	0.94 (0.69)	1.00 (0.69)	1.00 (0.70)	1.06 (0.70)	1.12 (0.71)	0.98 (0.69)	1.00 (0.69)	1.11 (0.72)	1.15 (0.72)
		Part-timers* Temporary Movers	x	x	x	x	x	0.77 (0.70)	0.78 (0.70)	0.73 (0.71)	0.85 (0.70)	0.84 (0.70)	0.86 (0.71)	0.85 (0.71)	0.94 (0.72)	0.81 (0.70)	0.86 (0.70)	1.02 (0.74)	1.06 (0.74)
		Self-employed* Temporary Movers	x	x	x	x	x	-0.36 (0.87)	-0.33 (0.87)	-0.39 (0.88)	-0.36 (0.87)	-0.30 (0.87)	-0.26 (0.88)	-0.29 (0.88)	-0.21 (0.88)	-0.35 (0.87)	-0.33 (0.87)	-0.19 (0.91)	-0.13 (0.90)
Education	Institution (ref: post 92)	Pre 92 universities	-0.354 * (0.21)	-0.13 (0.37)	x	x	x	x	-0.34 (0.21)	-0.15 (0.37)	x	x	x	x	x	x	x	-0.34 (0.39)	-0.32 (0.40)
		Old universities	0.004 (0.18)	0.35 (0.31)	x	x	x	x	0.02 (0.19)	0.39 (0.32)	x	x	x	x	x	x	x	0.40 (0.33)	0.41 (0.33)
	Field of study (ref: STEM)	COMB	-0.047 (0.30)	x	x	x	x	x	x	x	0.08 (0.31)	x	x	x	x	x	x	0.05 (0.33)	0.06 (0.33)
		LEM	0.228 (0.21)	x	x	x	x	x	x	x	0.18 (0.21)	x	x	x	x	x	x	0.15 (0.22)	0.17 (0.22)
		OSSAH	0.243 (0.17)	x	x	x	x	x	x	x	0.40 ** (0.18)	x	x	x	x	x	x	0.32 (0.19)	0.31 (0.19)
	Grade (ref: First or 2:1)	2:2	0.086 (0.15)	x	0.04 (0.28)	x	x	x	x	x	x	0.03 (0.16)	0.07 (0.28)	x	x	x	x	0.11 (0.30)	0.07 (0.29)
		Third or pass	-0.465 * (0.26)	x	-0.64 (0.40)	x	x	x	x	x	x	-0.61 * (0.28)	-0.64 (0.41)	x	x	x	x	-0.52 (0.43)	-0.53 (0.42)
	Number of spells (ref: one spell)	Multiple spells	0.583 *** (0.14)	x	x	1.26 *** (0.30)	x	x	x	x	x	x	x	0.74 *** (0.15)	1.33 *** (0.31)	x	x	1.45 *** (0.36)	1.28 *** (0.32)
	Timing	Age	0.016 (0.01)	x	x	x	0.02 (0.05)	x	x	x	x	x	x	x	x	0.02 (0.02)	0.04 (0.05)	-0.07 (0.06)	x
Education Interactions	Institution* typology (ref: post 92*Stable)	Fragmented* Pre 92	x	-0.27 (0.53)	x	x	x	x	x	-0.19 (0.53)	x	x	x	x	x	x	x	-0.02 (0.55)	-0.02 (0.55)
		Part-timers* Pre 92	x	-0.70 (0.58)	x	x	x	x	x	-0.71 (0.59)	x	x	x	x	x	x	x	-0.69 (0.62)	-0.71 (0.61)
		Self-employed* Pre 92	x	0.40 (0.72)	x	x	x	x	x	0.42 (0.73)	x	x	x	x	x	x	x	0.70 (0.75)	0.65 (0.75)
		Fragmented* Old	x	-0.69 * (0.40)	x	x	x	x	x	-0.69 * (0.41)	x	x	x	x	x	x	x	-0.63 (0.43)	-0.64 (0.43)
		Part-timers* Old	x	-0.52 (0.47)	x	x	x	x	x	-0.56 (0.47)	x	x	x	x	x	x	x	-0.80 (0.50)	-0.81 (0.50)
		Self-employed* Old	x	-0.11 (0.67)	x	x	x	x	x	-0.01 (0.68)	x	x	x	x	x	x	x	0.03 (0.70)	-0.02 (0.69)
	Grade* typology (ref: First or 2:1*Stable)	Fragmented* 2:2	x	x	0.29 (0.38)	x	x	x	x	x	x	x	0.21 (0.39)	x	x	x	x	0.20 (0.41)	0.25 (0.40)
		Part-timers* 2:2	x	x	-0.75 (0.47)	x	x	x	x	x	x	x	-0.80 * (0.48)	x	x	x	x	-0.95 * (0.50)	-0.90 * (0.50)
		Self-employed* 2:2	x	x	0.38 (0.55)	x	x	x	x	x	x	x	0.25 (0.57)	x	x	x	x	0.26 (0.59)	0.28 (0.59)

		Fragmented* Pass or third	x	x	0.26 (0.57)	x	x	x	x	x	x	x	0.25 (0.57)	x	x	x	x	0.22 (0.60)	0.26 (0.59)
		Part-timers* Pass or third	x	x	-0.01 (0.83)	x	x	x	x	x	x	x	-0.02 (0.84)	x	x	x	x	-0.19 (0.86)	-0.19 (0.86)
		Self-employed* Pass or third	x	x	-0.31 (1.16)	x	x	x	x	x	x	x	-0.43 (1.18)	x	x	x	x	-0.61 (1.22)	-0.52 (1.20)
	Number of spells* typology (ref: one spell*Stable)	Fragmented careers* Multiple spells	x	x	x	-0.87 ** (0.39)	x	x	x	x	x	x	x	x	-0.96 ** (0.40)	x	x	-1.01 ** (0.46)	-0.99 ** (0.41)
		Part-timers* Multiple spells	x	x	x	-0.29 (0.43)	x	x	x	x	x	x	x	x	-0.41 (0.44)	x	x	-0.52 (0.54)	-0.36 (0.46)
		Self-employed* Multiple spells	x	x	x	-0.82 (0.53)	x	x	x	x	x	x	x	x	-0.96 * (0.55)	x	x	-1.19 * (0.68)	-0.85 (0.56)
	Timing* typology (ref: Stable)	Fragmented* Age	x	x	x	x	-0.02 (0.06)	x	x	x	x	x	x	x	x	x	-0.04 (0.06)	0.05 (0.07)	x
		Part-timers* Age	x	x	x	x	0.03 (0.06)	x	x	x	x	x	x	x	x	x	0.01 (0.06)	0.07 (0.07)	x
		Self-employed* Age	x	x	x	x	0.01 (0.07)	x	x	x	x	x	x	x	x	x	-0.02 (0.07)	0.10 (0.09)	x
	Constant		-	-0.87 *** (0.21)	-0.67 *** (0.17)	-1.00 *** (0.14)	-1.29 (1.16)	-0.58 ** (0.23)	-0.51 ** (0.26)	-0.69 ** (0.29)	-0.70 *** (0.25)	-0.48 ** (0.25)	-0.47 * (0.27)	-0.68 *** (0.24)	-0.74 *** (0.24)	-1.08 *** (0.40)	-1.54 (1.18)	0.67 (1.35)	-0.84 ** (0.36)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Upward Non-linear																
			Education only	Education interaction					M2	M2 + Education								Full mocel	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.26 (0.29)	0.78 ** (0.32)	0.80 *** (0.27)	0.42 * (0.25)	-3.02 *** (1.50)	0.90 ** (0.31)	0.90 ** (0.31)	0.50 (0.38)	0.89 *** (0.31)	1.03 *** (0.39)	0.89 *** (0.31)	0.99 *** (0.36)	0.68 *** (0.32)	0.62 * (0.35)	0.82 *** (0.31)	-2.98 * (1.53)	-3.72 * (1.90)
		Part-timers	x	-0.50 (0.33)	-0.07 (0.44)	-0.11 (0.30)	-0.24 (0.29)	-3.94 ** (1.58)	0.20 (0.34)	0.19 (0.34)	-0.34 (0.43)	0.13 (0.35)	0.06 (0.53)	0.18 (0.34)	0.00 (0.40)	0.05 (0.35)	-0.17 (0.39)	0.15 (0.34)	-3.99 ** (1.62)	-4.96 ** (2.00)
		Self-employed	x	0.33 (0.43)	0.33 (0.48)	0.37 (0.35)	0.19 (0.34)	-1.82 (1.89)	0.50 (0.42)	0.50 (0.42)	0.52 (0.53)	0.47 (0.42)	0.43 (0.59)	0.49 (0.42)	0.61 (0.49)	0.34 (0.42)	0.31 (0.47)	0.44 (0.42)	-1.85 (1.93)	-0.35 (2.58)
	Ratio of professional workers	%	x	x	x	x	x	x	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.19 *** (0.07)	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.20 *** (0.07)	-0.21 *** (0.07)	-0.21 *** (0.07)	-0.19 *** (0.07)	-0.19 *** (0.07)	-0.22 *** (0.07)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	x	x	x	x	x	0.50 (0.40)	0.53 (0.40)	0.63 (0.41)	0.50 (0.40)	0.49 (0.41)	0.50 (0.40)	0.51 (0.40)	0.46 (0.40)	0.49 (0.40)	0.50 (0.40)	0.55 (0.41)	0.59 (0.43)
		Stayers in and Lasting Movers to Escalators	x	x	x	x	x	x	0.19 (0.36)	0.20 (0.36)	0.22 (0.36)	0.17 (0.36)	0.16 (0.36)	0.19 (0.36)	0.20 (0.36)	0.17 (0.36)	0.18 (0.36)	0.19 (0.36)	0.25 (0.36)	0.23 (0.38)
		Temporary Movers	x	x	x	x	x	x	0.60 (0.52)	0.60 (0.53)	0.59 (0.53)	0.61 (0.53)	0.69 (0.53)	0.59 (0.53)	0.61 (0.53)	0.57 (0.53)	0.59 (0.53)	0.58 (0.52)	0.77 (0.54)	0.86 (0.56)
	Migration* typology (ref: Stayers in Non-escalators * Stable)	Fragmented careers* Complex Movers	x	x	x	x	x	x	-0.38 (0.50)	-0.40 (0.51)	-0.51 (0.51)	-0.43 (0.51)	-0.41 (0.52)	-0.37 (0.51)	-0.37 (0.51)	-0.34 (0.51)	-0.37 (0.51)	-0.38 (0.50)	-0.43 (0.51)	-0.49 (0.54)
		Part-timers* Complex Movers	x	x	x	x	x	x	-0.37 (0.61)	-0.40 (0.61)	-0.52 (0.62)	-0.42 (0.61)	-0.35 (0.62)	-0.37 (0.61)	-0.38 (0.62)	-0.36 (0.62)	-0.41 (0.62)	-0.36 (0.61)	-0.40 (0.62)	-0.51 (0.65)
		Self-employed* Complex Movers	x	x	x	x	x	x	-0.34 (0.78)	-0.34 (0.78)	-0.42 (0.81)	-0.35 (0.78)	-0.20 (0.81)	-0.35 (0.78)	-0.41 (0.79)	-0.22 (0.78)	-0.26 (0.79)	-0.32 (0.78)	-0.42 (0.79)	-0.31 (0.85)
		Fragmented careers*	x	x	x	x	x	x	0.00 (0.46)	-0.01 (0.46)	-0.01 (0.47)	-0.03 (0.46)	-0.01 (0.47)	-0.01 (0.46)	-0.01 (0.46)	0.04 (0.46)	0.02 (0.46)	-0.01 (0.46)	-0.08 (0.46)	-0.02 (0.48)

		Stayers in and Lasting Movers to Escalators																	
		Part-timers* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	x	0.14 (0.54)	0.14 (0.54)	0.10 (0.54)	0.16 (0.54)	0.13 (0.54)	0.13 (0.54)	0.12 (0.54)	0.16 (0.54)	0.16 (0.54)	0.12 (0.54)	0.02 (0.54)	0.06 (0.56)
		Self-employed* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	x	-0.20 (0.65)	-0.21 (0.65)	-0.22 (0.66)	-0.16 (0.66)	-0.05 (0.68)	-0.21 (0.65)	-0.25 (0.66)	-0.19 (0.66)	-0.20 (0.66)	-0.17 (0.65)	-0.30 (0.66)	-0.33 (0.70)
		Fragmented careers* Temporary Movers	x	x	x	x	x	x	-1.22 * (0.72)	-1.23 * (0.72)	-1.21 * (0.73)	-1.25 * (0.72)	-1.32 * (0.73)	-1.21 * (0.72)	-1.22 * (0.72)	-1.17 (0.72)	-1.18 (0.72)	-1.19 * (0.72)	-1.38 * (0.73)	-1.42 * (0.75)
		Part-timers* Temporary Movers	x	x	x	x	x	x	-0.59 (0.71)	-0.58 (0.71)	-0.58 (0.72)	-0.55 (0.72)	-0.55 (0.73)	-0.58 (0.71)	-0.61 (0.72)	-0.53 (0.72)	-0.53 (0.72)	-0.56 (0.71)	-0.73 (0.72)	-0.68 (0.76)
		Self-employed* Temporary Movers	x	x	x	x	x	x	-0.50 (0.81)	-0.50 (0.81)	-0.47 (0.82)	-0.49 (0.81)	-0.51 (0.82)	-0.50 (0.81)	-0.54 (0.81)	-0.46 (0.81)	-0.47 (0.81)	-0.49 (0.81)	-0.67 (0.81)	-0.65 (0.86)
Education	Institution (ref: post 92)	Pre-92 universities	0.01 (0.20)	-0.22 (0.38)	x	x	x	x	x	0.05 (0.21)	-0.20 (0.39)	x	x	x	x	x	x	x	x	-0.21 (0.44)
		Old universities	-0.13 ** (0.19)	-0.99 (0.47)	x	x	x	x	x	-0.15 (0.20)	-1.03 ** (0.48)	x	x	x	x	x	x	x	x	-1.02 ** (0.47)
	Field of study (ref: STEM)	COMB	0.34 (0.31)	x	0.96 * (0.57)	x	x	x	x	x	x	0.29 (0.32)	0.96 (0.59)	x	x	x	x	x	x	0.94 (0.62)
		LEM	0.44 (0.23)	x	0.74 * (0.38)	x	x	x	x	x	x	0.45 * (0.23)	0.76 ** (0.38)	x	x	x	x	x	x	0.73 * (0.43)
		OSSAH	0.31 (0.18)	x	-0.17 (0.46)	x	x	x	x	x	x	0.29 (0.19)	-0.18 (0.47)	x	x	x	x	x	x	-0.31 (0.49)
	Grade (ref: First or 2:1)	2:2	-0.02 (0.20)	x	x	-0.07 (0.41)	x	x	x	x	x	x	x	-0.04 (0.21)	-0.13 (0.41)	x	x	x	x	-0.01 (0.43)
		Third or pass	-0.16 (0.27)	x	x	0.04 (0.45)	x	x	x	x	x	x	x	-0.14 (0.27)	0.04 (0.44)	x	x	x	x	0.27 (0.51)

	Number of spells (ref: one spell)	Multiple spells	0.61 (0.15)	x	x	x	0.25 (0.37)	x	x	x	x	x	x	x	x	0.52 *** (0.16)	0.17 (0.38)	x	x	0.83 * (0.45)
	Timing	Age	0.04 (0.01)	x	x	x	x	-0.13 ** (0.07)	x	x	x	x	x	x	x	x	x	0.02 (0.02)	-0.14 ** (0.07)	-0.18 * (0.08)
Education Interactions	Institution* typology (ref: post 92*Stable)	Fragmented*Pre-92	x	0.55 (0.49)	x	x	x	x	x	x	0.56 (0.50)	x	x	x	x	x	x	x	x	0.67 (0.56)
		Part-timers*Pre-92	x	0.49 (0.55)	x	x	x	x	x	x	0.48 (0.56)	x	x	x	x	x	x	x	x	0.53 (0.59)
		Self-employed* Pre-92	x	-0.63 (0.73)	x	x	x	x	x	x	-0.61 (0.75)	x	x	x	x	x	x	x	x	-0.74 (0.79)
		Fragmented* Old	x	1.05 * (0.56)	x	x	x	x	x	x	1.06 * (0.56)	x	x	x	x	x	x	x	x	1.14 ** (0.55)
		Part-timers* Old	x	1.57 ** (0.61)	x	x	x	x	x	x	1.60 ** (0.62)	x	x	x	x	x	x	x	x	1.63 ** (0.63)
		Self-employed* Old	x	0.60 (0.73)	x	x	x	x	x	x	0.66 (0.74)	x	x	x	x	x	x	x	x	0.58 (0.79)
	Number of spells*typology (ref: one spell*Stable)	Fragmented careers*COMB	x	x	-1.04 (0.78)	x	x	x	x	x	x	x	-1.02 (0.79)	x	x	x	x	x	x	-1.03 (0.83)
		Part-timers*COMB	x	x	-0.64 (0.87)	x	x	x	x	x	x	x	-0.67 (0.89)	x	x	x	x	x	x	-0.63 (0.93)
		Self-employed*COMB	x	x	-0.59 (1.11)	x	x	x	x	x	x	x	-0.55 (1.13)	x	x	x	x	x	x	-0.87 (1.21)
		Fragmented*LEM	x	x	-0.45 (0.50)	x	x	x	x	x	x	x	-0.46 (0.51)	x	x	x	x	x	x	-0.38 (0.55)
		Part-timers*LEM	x	x	-1.09 (0.81)	x	x	x	x	x	x	x	-1.13 (0.81)	x	x	x	x	x	x	-0.88 (0.85)
		Self-employed*LEM	x	x	0.07 (0.85)	x	x	x	x	x	x	x	0.23 (0.87)	x	x	x	x	x	x	0.00 (0.97)

		Fragmented careers*OSSAH	x	x	0.39 (0.58)	x	x	x	x	x	x	x	0.38 (0.59)	x	x	x	x	x	x	0.42 (0.61)
		Part-timers*OSSAH	x	x	0.81 (0.63)	x	x	x	x	x	x	x	0.79 (0.64)	x	x	x	x	x	x	0.84 (0.67)
		Self-employed*OSSAH	x	x	0.35 (0.72)	x	x	x	x	x	x	x	0.39 (0.73)	x	x	x	x	x	x	0.54 (0.78)
	Grade* typology (ref: First or 2:1*Stable)	Fragmented*2:2	x	x	x	-0.20 (0.48)	x	x	x	x	x	x	x	x	-0.14 (0.48)	x	x	x	x	-0.23 (0.50)
		Part-timers*2:2	x	x	x	0.62 (0.53)	x	x	x	x	x	x	x	x	0.67 (0.53)	x	x	x	x	0.61 (0.57)
		Self-employed*2:2	x	x	x	-0.14 (0.64)	x	x	x	x	x	x	x	x	-0.13 (0.64)	x	x	x	x	-0.42 (0.68)
		Fragmented*Pass or third	x	x	x	-0.42 (0.62)	x	x	x	x	x	x	x	x	-0.41 (0.63)	x	x	x	x	-0.41 (0.68)
		Part-timers*Pass or third	x	x	x	-0.16 (0.88)	x	x	x	x	x	x	x	x	-0.09 (0.88)	x	x	x	x	0.02 (0.94)
		Self-employed*Pass or third	x	x	x	-0.33 (0.94)	x	x	x	x	x	x	x	x	-0.42 (0.94)	x	x	x	x	-0.34 (1.04)
	Number of spells* typology (ref: one spell*Stable)	Fragmented careers* Multiple spells	x	x	x	x	0.28 (0.45)	x	x	x	x	x	x	x	x	x	0.34 (0.45)	x	x	-0.38 (0.54)
		Part-timers* Multiple spells	x	x	x	x	0.50 (0.49)	x	x	x	x	x	x	x	x	x	0.66 (0.50)	x	x	-0.08 (0.61)
		Self-employed* Multiple spells	x	x	x	x	0.10 (0.58)	x	x	x	x	x	x	x	x	x	0.30 (0.58)	x	x	0.23 (0.78)
	Timing* typology (ref: Stable)	Fragmented*Age	x	x	x	x	x	0.16 ** (0.07)	x	x	x	x	x	x	x	x	x	x	0.17 ** (0.07)	0.20 ** (0.08)
		Part-timers*Age	x	x	x	x	x	0.18 ** (0.07)	x	x	x	x	x	x	x	x	x	x	0.19 *** (0.07)	0.19 ** (0.09)
		Self-employed*Age	x	x	x	x	x	0.10 (0.08)	x	x	x	x	x	x	x	x	x	x	0.11 (0.08)	0.05

																			(0.11)
	Constant		-	-1.26*** (0.21)	-1.83*** (0.23)	-1.58*** (0.23)	-1.63 (0.16)	1.26 (1.40)	-0.15 (0.61)	-0.11 (0.62)	0.13 (0.64)	-0.29 (0.62)	-0.35 (0.65)	-0.11 (0.62)	-0.13 (0.65)	-0.14 (0.62)	-0.03 (0.62)	-0.58 (0.70)	2.92* (1.53)	3.91*** (1.84)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Explanatory variables			Downward															
			Education only	Education interaction				M2	M2 + Education								Full model	M3
Control variables	Career Typology (ref=Stable Careers)	Fragmented Careers	x	0.35 (0.54)	-0.07 (0.44)	0.14 (0.34)	-0.84 (2.18)	0.51 (0.44)	0.92 (0.65)	0.52 (0.45)	0.54 (0.44)	0.42 (0.55)	0.65 (0.45)	0.68 (0.48)	0.59 (0.45)	-0.92 (2.25)	-0.55 (2.64)	-0.07 (2.58)
		Part-timers	x	0.44 (0.57)	0.76 * (0.39)	0.64 ** (0.31)	-0.14 (2.18)	1.18 ** (0.45)	1.08 (0.69)	1.32 *** (0.46)	1.24 *** (0.45)	1.31 * (0.52)	1.28 *** (0.45)	1.28 *** (0.47)	1.23 *** (0.45)	-0.12 (2.24)	0.06 (2.65)	0.17 (2.61)
		Self-employed	x	1.55 *** (0.59)	0.70 (0.47)	0.25 (0.43)	-2.53 (2.34)	0.41 (0.58)	1.39 * (0.75)	0.53 (0.58)	0.48 (0.58)	0.43 (0.69)	0.53 (0.58)	0.04 (0.65)	0.49 (0.58)	-3.78 (2.48)	-1.11 (3.03)	-1.57 (2.89)
	Gender (ref: Female)	Male	x	x	x	x	x	0.42 * (0.25)	0.42 * (0.25)	0.32 (0.26)	0.39 (0.25)	0.38 (0.25)	0.44 * (0.25)	0.43 * (0.25)	0.44 * (0.25)	0.46 * (0.25)	0.29 (0.27)	0.34 (0.26)
Migration	Migration (ref: Stayers in Non-escalators)	Complex Movers	x	x	x	x	x	0.42 (0.54)	0.38 (0.55)	0.43 (0.55)	0.45 (0.54)	0.42 (0.55)	0.45 (0.54)	0.49 (0.55)	0.43 (0.54)	0.44 (0.55)	0.42 (0.56)	0.46 (0.56)
		Stayers in and Lasting Movers to Escalators	x	x	x	x	x	-0.06 (0.54)	-0.06 (0.54)	-0.07 (0.54)	-0.08 (0.54)	-0.09 (0.54)	-0.06 (0.54)	-0.05 (0.54)	-0.07 (0.54)	-0.03 (0.54)	-0.03 (0.55)	-0.01 (0.54)
		Temporary Movers	x	x	x	x	x	0.93 (0.64)	0.95 (0.65)	0.93 (0.64)	0.93 (0.64)	0.87 (0.64)	0.90 (0.64)	0.93 (0.64)	0.91 (0.64)	1.00 (0.65)	1.12 ** (0.67)	1.12 * (0.67)
	Migration* typology (ref: Stayers in Non-escalators * Stable)	Fragmented careers* Complex Movers	x	x	x	x	x	-0.83 (0.75)	-0.82 (0.76)	-0.73 (0.75)	-0.89 (0.75)	-0.90 (0.76)	-0.85 (0.75)	-0.89 (0.75)	-0.81 (0.75)	-0.83 (0.75)	-0.85 (0.78)	-0.80 (0.77)
		Part-timers* Complex Movers	x	x	x	x	x	-0.29 (0.72)	-0.30 (0.73)	-0.23 (0.72)	-0.27 (0.72)	-0.26 (0.72)	-0.27 (0.72)	-0.29 (0.72)	-0.27 (0.72)	-0.28 (0.72)	-0.31 (0.75)	-0.35 (0.74)
		Self-employed* Complex Movers	x	x	x	x	x	0.67 (0.92)	1.00 (0.96)	0.88 (0.93)	0.70 (0.93)	0.75 (0.94)	0.62 (0.92)	0.74 (0.93)	0.69 (0.92)	0.76 (0.94)	1.29 (1.01)	1.12 0.98)
		Fragmented careers* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	-0.72 (0.77)	-0.76 (0.77)	-0.64 (0.77)	-0.69 (0.77)	-0.66 (0.77)	-0.75 (0.76)	-0.76 (0.77)	-0.73 (0.76)	-0.76 (0.77)	-0.71 (0.78)	-0.77 0.78)
		Part-timers* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	-0.64 (0.76)	-0.62 (0.77)	-0.59 (0.76)	-0.60 (0.76)	-0.60 (0.76)	-0.63 (0.76)	-0.65 (0.76)	-0.61 (0.76)	-0.64 (0.76)	-0.57 (0.78)	-0.61 0.77)
		Self-employed* Stayers in and Lasting Movers to Escalators	x	x	x	x	x	0.74 (0.85)	0.78 (0.86)	0.84 (0.85)	0.80 (0.85)	0.83 (0.86)	0.76 (0.85)	0.73 (0.85)	0.74 (0.85)	0.81 (0.86)	0.90 (0.89)	0.84 0.88)
		Fragmented careers *Temporary Movers	x	x	x	x	x	-0.73 (0.88)	-0.77 (0.89)	-0.72 (0.88)	-0.76 (0.88)	-0.71 (0.89)	-0.75 (0.88)	-0.79 (0.89)	-0.74 (0.88)	-0.83 (0.89)	-0.96 (0.92)	-0.97 (0.91)

		Part-timers *Temporary Movers	x	x	x	x	x	-1.48 * (0.87)	-1.41 (0.88)	-1.62 * (0.87)	-1.53 * (0.87)	-1.45 * (0.87)	-1.49 * (0.87)	-1.52 * (0.87)	-1.50 * (0.86)	-1.60 * (0.87)	-1.64 * (0.90)	-1.65 * (0.90)
		Self-employed *Temporary Movers	x	x	x	x	x	-1.08 (1.09)	-0.99 (1.10)	-1.04 (1.09)	-1.06 (1.09)	-1.06 (1.10)	-1.04 (1.09)	-1.02 (1.09)	-1.03 (1.09)	-1.13 (1.10)	-1.12 (1.13)	-1.12 (1.12)
Education	Institution (ref: post 92)	Pre-92 universities	0.55 ** (0.28)	0.69 (0.65)	x	x	x	0.49 * (0.28)	0.73 (0.65)	x	x	x	x	x	x	x	0.81 (0.68)	0.78 (0.66)
		Old universities	0.35 (0.25)	0.75 (0.55)	x	x	x	0.34 (0.26)	0.77 (0.56)	x	x	x	x	x	x	x	0.81 (0.56)	0.76 (0.56)
	Field of study (ref: STEM)	COMB	0.31 (0.35)	x	x	x	x	x	x	0.20 (0.37)	x	x	x	x	x	x	0.33 (0.39)	0.28 (0.38)
		LEM	-0.18 (0.32)	x	x	x	x	x	x	-0.11 (0.33)	x	x	x	x	x	x	0.02 (0.35)	-0.04 (0.34)
		OSSAH	-0.47 * (0.26)	x	x	x	x	x	x	-0.66 ** (0.28)	x	x	x	x	x	x	-0.50 (0.30)	-0.54 * (0.30)
	Grade (ref: First or 2:1)	2:2	0.04 (0.24)	x	0.34 (0.48)	x	x	x	x	x	0.10 0.25)	0.30 0.48)	x	x	x	x	0.46 (0.50)	x
		Third or pass	0.39 (0.31)	x	0.27 (0.59)	x	x	x	x	x	0.52 0.32)	0.25 0.60)	x	x	x	x	0.21 (0.65)	x
	Number of spells (ref: one spell)	Multiple spells	-0.30 (0.22)	x	x	-0.93 (0.75)	x	x	x	x	x	x	-0.38 (0.23)	-0.96 0.76)	x	x	-0.79 (0.81)	-0.80 (0.80)
	Timing	Age	-0.02 (0.02)	x	x	x	-0.08 (0.09)	x	x	x	x	x	x	x	-0.02 (0.02)	-0.11 (0.09)	-0.08 (0.11)	-0.07 (0.11)
Education Interactions	Institution* typology (ref: post 92*Stable)	Fragmented*Pre 92	x	-1.06 (0.92)	x	x	x	x	-1.17 (0.93)	x	x	x	x	x	x	x	-1.27 (0.96)	-1.29 (0.94)
		Part-timers*Pre 92	x	0.65 (0.79)	x	x	x	x	0.56 (0.80)	x	x	x	x	x	x	x	0.56 (0.83)	0.56 (0.80)
		Self-employed*Pre 92	x	-1.25 (0.93)	x	x	x	x	-1.32 (0.96)	x	x	x	x	x	x	x	-1.41 (1.02)	-1.22 (0.98)
		Fragmented*Old	x	-0.26 (0.72)	x	x	x	x	-0.31 (0.72)	x	x	x	x	x	x	x	-0.40 (0.73)	-0.39 (0.73)
		Part-timers*Old	x	-0.27 (0.81)	x	x	x	x	-0.31 (0.83)	x	x	x	x	x	x	x	-0.27 (0.84)	-0.26 (0.83)
		Self-employed*Old	x	-1.67 * (0.86)	x	x	x	x	-1.89 ** (0.90)	x	x	x	x	x	x	x	-1.91 * (0.97)	-1.61 * (0.92)
	Grade* typology (ref: First or 2:1*Stable)	Fragmented*2:2	x	x	-0.17 (0.68)	x	x	x	x	x	x	-0.10 (0.68)	x	x	x	x	-0.21 (0.70)	x
		Part-timers*2:2	x	x	-0.41 (0.64)	x	x	x	x	x	x	-0.37 (0.64)	x	x	x	x	-0.42 (0.67)	x
		Self-employed*2:2	x	x	-0.44 (0.78)	x	x	x	x	x	x	-0.33 (0.80)	x	x	x	x	-0.46 (0.85)	x

		Fragmented*Pass or third	x	x	0.78 (0.79)	x	x	x	x	x	x	0.72 (0.80)	x	x	x	x	0.63 (0.85)	x
		Part-timers*Pass or third	x	x	-0.34 (0.99)	x	x	x	x	x	x	-0.30 (1.00)	x	x	x	x	0.04 (1.07)	x
		Self-employed* Pass or third	x	x	0.64 (0.96)	x	x	x	x	x	x	0.82 (0.99)	x	x	x	x	0.99 (1.11)	x
	Number of spells*typology (ref: one spell*Stable)	Fragmented careers* Multiple spells	x	x	x	0.40 (0.85)	x	x	x	x	x	x	x	0.43 (0.86)	x	x	0.47 (0.94)	0.37 (0.94)
		Part-timers* Multiple spells	x	x	x	0.45 (0.85)	x	x	x	x	x	x	x	0.44 (0.85)	x	x	0.38 (0.95)	0.38 (0.95)
		Self-employed* Multiple spells	x	x	x	1.46 (0.92)	x	x	x	x	x	x	x	1.57 * (0.93)	x	x	1.01 (1.08)	0.94 (1.07)
	Timing*typology (ref: Stable)	Fragmented*Age	x	x	x	x	0.04 (0.10)	x	x	x	x	x	x	x	x	0.07 (0.10)	0.07 (0.12)	0.06 (0.12)
		Part-timers*Age	x	x	x	x	0.04 (0.10)	x	x	x	x	x	x	x	x	0.07 (0.10)	0.06 (0.12)	0.05 (0.12)
		Self-employed*Age	x	x	x	x	0.14 (0.10)	x	x	x	x	x	x	x	x	0.18 * (0.11)	0.11 (0.13)	0.12 (0.13)
	Constant		-	-2.95 *** (0.44)	-2.63 *** (0.32)	-2.35 *** (0.21)	-0.72 (1.95)	-3.17 *** (0.40)	-3.42 *** (0.55)	-2.73 *** (0.40)	-3.05 *** (0.39)	-3.03 *** (0.44)	-2.88 *** (0.38)	-2.83 *** (0.38)	-2.40 *** (0.64)	-0.60 (2.00)	-1.77 (2.34)	-1.82 (2.31)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; x denotes that variable not included in the model; - denotes that coefficient vary depending on the model; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

Appendix K: Modelling Results Tables Summarised in Chapter 6 – Separately by Gender

Explanatory variables		Lateral linear		Lateral non-linear		Upward linear		Upward non-linear		Downward	
		Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
Career Typology (ref=Stable Careers)	Fragmented Careers	-0.77** (0.30)	-0.68** (0.28)	0.31 (0.37)	0.30 0.35	-0.38 (0.27)	-0.17 (0.26)	0.82** (0.32)	0.71** (0.31)	0.64 (0.51)	-0.09 (0.41)
	Part-timers	-0.21 (0.27)	-0.88 (0.71)	0.67* (0.35)	-1.17 1.10	-0.80*** (0.27)	-0.30 (0.62)	0.10 (0.32)	1.19* (0.62)	1.19** (0.48)	0.96 (0.73)
	Self-employed	0.04 (0.38)	-0.40 (0.36)	0.79* (0.46)	-0.72 0.53	-1.02** (0.43)	-0.20 (0.33)	0.17 (0.45)	0.43 (0.39)	0.61 (0.69)	1.15*** (0.44)
Moved during childhood (ref: Not moved)	Moved	-0.18 (0.30)	0.11 (0.34)	0.15 (0.27)	0.13 0.36	0.01 (0.28)	-0.32 (0.30)	-0.08 (0.30)	0.38 (0.29)	0.13 (0.39)	-0.29 (0.50)
Unemployment rate	%	-0.04 (0.04)	-0.01 (0.05)	-0.03 (0.05)	0.02 0.07	0.03 (0.04)	-0.05 (0.05)	0.00 (0.04)	0.04 (0.05)	0.04 (0.06)	0.02 (0.07)
Ratio of professional workers	%	0.16 (0.12)	0.11 (0.13)	0.19 (0.13)	0.22 0.17	0.04 (0.12)	0.01 (0.12)	-0.35*** (0.13)	-0.20 (0.14)	-0.14 (0.17)	-0.28 (0.21)
Part time employment rate	%	-0.07 (0.07)	0.08 (0.09)	0.04 (0.08)	0.08 0.11	0.06 (0.07)	0.02 (0.08)	-0.02 (0.08)	-0.12 (0.09)	-0.04 (0.10)	-0.06 (0.13)
Industry Sector (ref: Tertiary)	Primary	0.70** (0.31)	0.22 (0.37)	-0.01 (0.35)	0.28 0.44	-0.38 (0.29)	-0.13 (0.33)	-0.27 (0.32)	-0.32 (0.38)	-0.08 (0.42)	0.00 (0.55)
	Secondary	0.64** (0.30)	0.38 (0.37)	0.38 (0.33)	0.22 0.44	-0.37 (0.29)	-0.35 (0.34)	-0.31 (0.30)	-0.47 (0.38)	-0.45 (0.41)	0.49 (0.49)
Housing tenure (ref: rented in childhood)	Being bought across childhood sweeps	0.32 (0.32)	0.15 (0.40)	-0.36 (0.33)	-0.40 0.37	0.13 (0.25)	-0.19 (0.30)	-0.32 (0.27)	0.38 (0.33)	0.32 (0.42)	0.03 (0.43)

Parental social class (ref: Ns-Sec 1)	Ns-Sec 2	-0.50*	0.21	0.63**	0.18	0.16	-0.08	-0.04	0.19	-0.10	-0.85
		(0.26)	(0.31)	(0.30)	0.37	(0.29)	(0.30)	(0.29)	(0.34)	(0.36)	(0.49)
	Ns-Sec 3 and 4	-0.69**	-0.46	0.43	0.38	0.43	-0.14	0.19	0.56	-0.38	-0.35*
		(0.30)	(0.44)	(0.35)	0.44	(0.31)	(0.31)	(0.31)	(0.36)	(0.49)	(0.46)
	Ns-Sec 5-7	-0.46	-0.36	-0.04	-0.32**	0.81	-0.17	-0.16	0.89**	-0.48	-0.09
		(0.32)	(0.46)	(0.46)	0.56	(0.34)	(0.36)	(0.35)	(0.44)	(0.49)	(0.51)
Importance of working for self (ref: Doesn't matter)	Matters	0.10	-0.05	-0.31	-0.59	-0.37	-0.01	0.66	0.36	-0.20	0.14
		(0.61)	(0.54)	(0.75)	0.82	(0.50)	(0.55)	(0.49)	(0.49)	(0.63)	(0.55)
Importance of variety in a job (ref: Matters less)	Matters very much	-0.09	-0.36	0.45	0.61	0.23	0.15	-0.53	-0.10	-0.14	-0.32
		(0.56)	(0.47)	(0.76)	0.84	(0.40)	(0.47)	(0.51)	(0.57)	(0.64)	(0.58)
Importance of security in a job (ref: Matters very much)	Matters less	-0.33	0.15	-0.08	0.09	0.29	0.08	0.19	-0.12	-0.18	-0.29
		(0.25)	(0.28)	(0.30)	0.36	(0.24)	(0.29)	(0.24)	(0.34)	(0.33)	(0.43)
Importance of family life (ref: very interested)	Not interested or sure	0.03	0.13	-0.40	-0.40	0.20	0.14	-0.11	0.00	0.39	0.00
		(0.36)	(0.37)	(0.50)	0.47	(0.39)	(0.32)	(0.44)	(0.39)	(0.56)	(0.52)
	Quite interested	-0.55**	0.08	-0.12	-0.17	0.23	0.06	0.29	-0.11	0.33	0.30
		(0.24)	(0.36)	(0.35)	0.44	(0.25)	(0.31)	(0.26)	(0.39)	(0.34)	(0.55)
Ability (Maths)	Friendly Maths Test	-0.01	-0.01	0.02	0.03	-0.01	0.00	0.00	-0.01	0.01	0.00
		(0.02)	(0.02)	(0.02)	0.03	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Ability (Vocabulary)	Raw Vocabulary Test score	0.01	0.04**	0.00	0.01	-0.01	-0.01	0.00	-0.02	0.01	-0.01
		(0.01)	(0.02)	(0.02)	0.03	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Constant		-0.58	-4.75*	-5.01*	-7.00**	-1.68	-0.22	1.85	2.70	-2.52	1.32
		(2.17)	(2.71)	(2.63)	3.24	(2.11)	(2.30)	(2.33)	(2.54)	(3.01)	(3.71)

Note: Table shows variables which exhibit statistical significance in at least one of the models only; full tables can be viewed in appendix J; coefficient represent log odds; standard errors shown in brackets; *p<0.1; **p<0.05; ***p<0.01; the highlighted coefficients are significant, colour (greed, red) reflects the direction of the relationship, shade reflects the level of significance

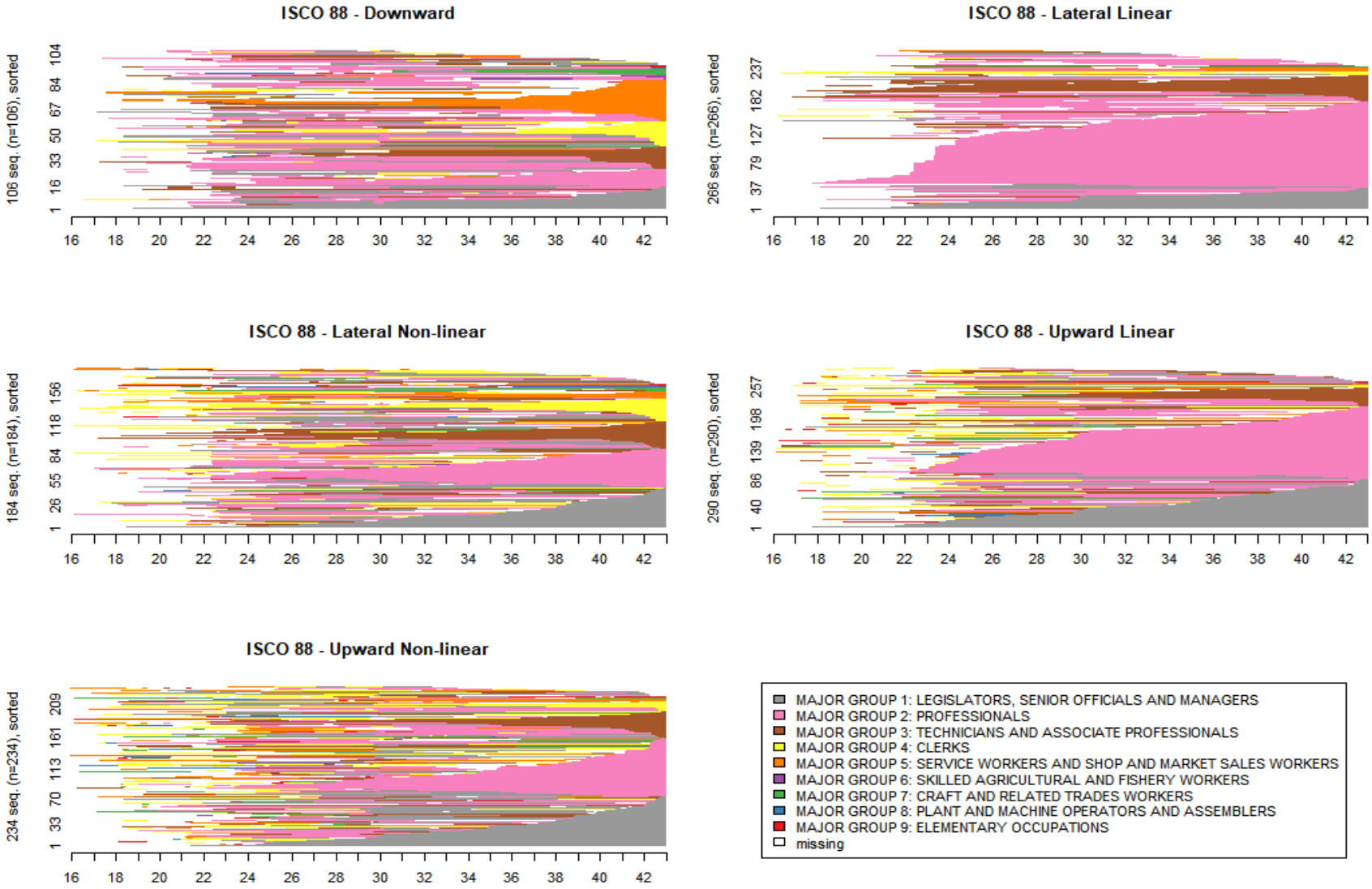
Appendix L: Sensitivity of allocation of the trajectories to work conducted between age 16 and 22

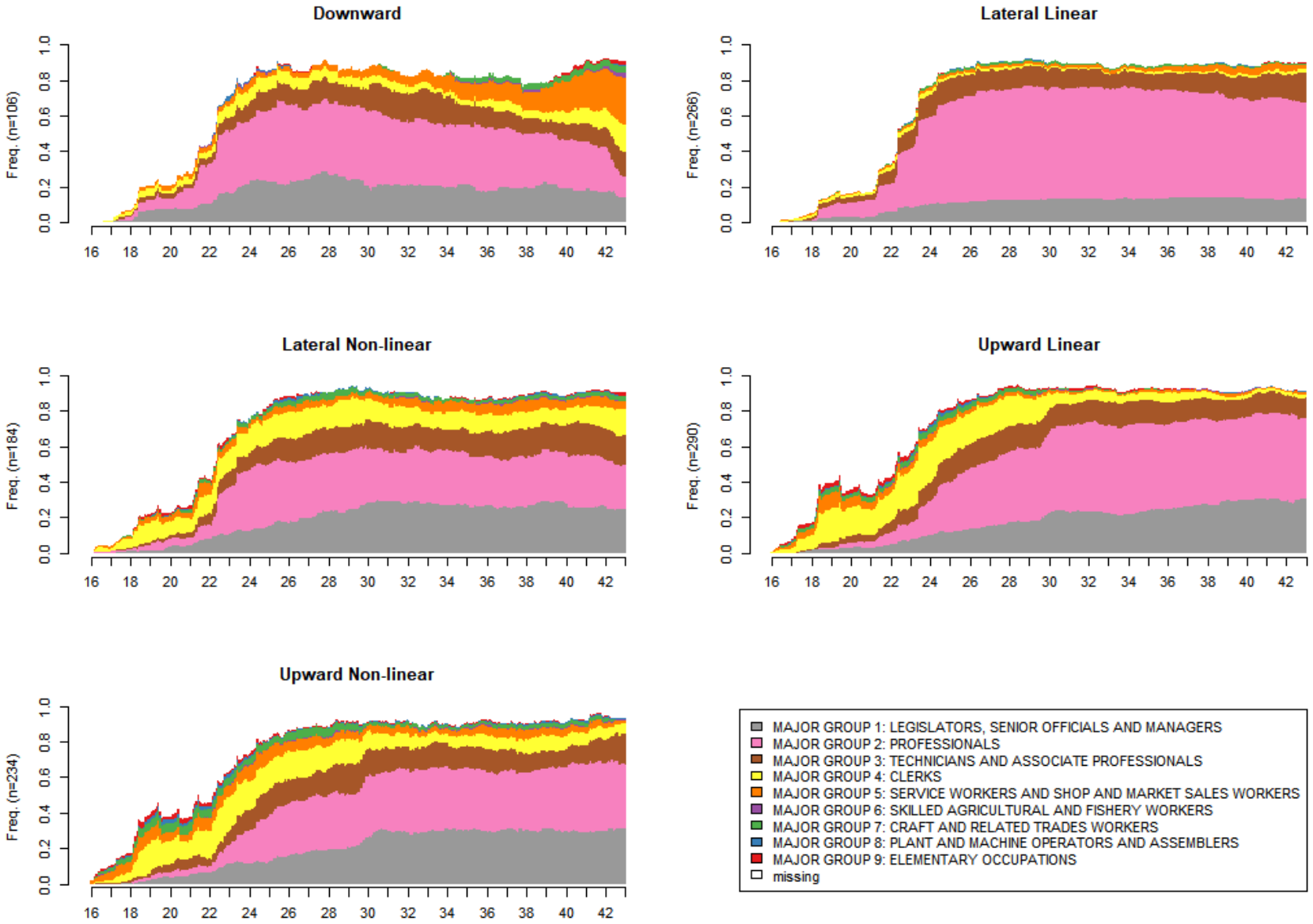
		Downward 17	Lateral Linear 17	Lateral Non-linear 17	Upward Linear 17	Upward Non-linear 17
Downward	N	105	0	1	0	0
	%	99%	0%	1%	0%	0%
Lateral Linear	N	0	266	0	0	0
	%	0%	100%	0%	0%	0%
Lateral Non-linear	N	17	0	157	0	10
	%	9%	0%	85%	0%	5%
Upward Linear	N	0	0	45	229	16
	%	0%	0%	16%	79%	6%
Upward Non-linear	N	13	0	24	0	197
	%	6%	0%	10%	0%	84%
		Downward 18	Lateral Linear 18	Lateral Non-linear 18	Upward Linear 18	Upward Non-linear 18
Downward	N	92	0	13	0	1
	%	87%	0%	12%	0%	1%
Lateral Linear	N	0	266	0	0	0
	%	0%	100%	0%	0%	0%
Lateral Non-linear	N	29	0	141	0	14
	%	16%	0%	77%	0%	8%
Upward Linear	N	0	2	76	183	29
	%	0%	1%	26%	63%	10%
Upward Non-linear	N	25	0	47	0	162
	%	11%	0%	20%	0%	69%
		Downward 19	Lateral Linear 19	Lateral Non-linear 19	Upward Linear 19	Upward Non-linear 19
Downward	N	92	0	13	0	1

	%	87%	0%	12%	0%	1%
Lateral Linear	N	0	266	0	0	0
	%	0%	100%	0%	0%	0%
Lateral Non-linear	N	29	0	141	2	12
	%	16%	0%	77%	1%	7%
Upward Linear	N	0	11	67	184	28
	%	0%	4%	23%	63%	10%
Upward Non-linear	N	25	0	47	3	159
	%	11%	0%	20%	1%	68%
		Downward 20	Lateral Linear 20	Lateral Non-linear 20	Upward Linear 20	Upward Non-linear 20
Downward	N	88	0	15	0	3
	%	83%	0%	14%	0%	3%
Lateral Linear	N	0	266	0	0	0
	%	0%	100%	0%	0%	0%
Lateral Non-linear	N	41	1	121	1	20
	%	22%	1%	66%	1%	11%
Upward Linear	N	0	33	83	140	34
	%	0%	11%	29%	48%	12%
Upward Non-linear	N	37	1	68	1	127
	%	16%	0%	29%	0%	54%
		Downward 21	Lateral Linear 21	Lateral Non-linear 21	Upward Linear 21	Upward Non-linear 21
Downward	N	85	1	18	0	2
	%	80%	1%	17%	0%	2%
Lateral Linear	N	0	266	0	0	0
	%	0%	100%	0%	0%	0%
Lateral Non-linear	N	42	2	114	1	25
	%	23%	1%	62%	1%	14%
Upward Linear	N	0	42	95	125	28
	%	0%	14%	33%	43%	10%

Upward Non-linear	N	40	2	83	2	107
	%	17%	1%	35%	1%	46%
		Downward 22	Lateral Linear 22	Lateral Non-linear 22	Upward Linear 22	Upward Non-linear 22
Downward	N	81	1	22	0	2
	%	76%	1%	21%	0%	2%
Lateral Linear	N	0	266	0	0	0
	%	0%	100%	0%	0%	0%
Lateral Non-linear	N	39	2	105	2	36

Appendix M: Relationship of social mobility trajectories to occupational circumstances




Downward
Freq. (n=106)
Lateral Linear
Freq. (n=266)
Lateral Non-linear
Freq. (n=184)
Upward Linear
Freq. (n=290)
Upward Non-linear
Freq. (n=234)
0.0 0.2 0.4 0.6 0.8 1.0
16 18 20 22 24 26 28 30 32 34 36 38 40 42
MAJOR GROUP 1: LEGISLATORS, SENIOR OFFICIALS AND MANAGERS
MAJOR GROUP 2: PROFESSIONALS
MAJOR GROUP 3: TECHNICIANS AND ASSOCIATE PROFESSIONALS
MAJOR GROUP 4: CLERKS
MAJOR GROUP 5: SERVICE WORKERS AND SHOP AND MARKET SALES WORKERS
MAJOR GROUP 6: SKILLED AGRICULTURAL AND FISHERY WORKERS
MAJOR GROUP 7: CRAFT AND RELATED TRADES WORKERS
MAJOR GROUP 8: PLANT AND MACHINE OPERATORS AND ASSEMBLERS
MAJOR GROUP 9: ELEMENTARY OCCUPATIONS
missing

Appendix N: Marginal Effect Equivalent to the Results Reported in Chapter 5

Lateral Linear

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
Typology						
Fragmented careers	-.1265786	.0320549	-3.95	0.000	-.1894051	-.0637522
Part-timers	-.0235615	.0371038	-0.64	0.525	-.0962836	.0491607
Self-employed	-.0249697	.0470828	-0.53	0.596	-.1172503	.0673109

Lateral Non-linear

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
Typology						
Fragmented careers	.0424073	.0276941	1.53	0.126	-.0118721	.0966868
Part-timers	.0733742	.0312674	2.35	0.019	.0120911	.1346573
Self-employed	.0156364	.0372564	0.42	0.675	-.0573849	.0886576

Upward Linear

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
Typology						
Fragmented careers	-.0332656	.0350215	-0.95	0.342	-.1019064	.0353752
Part-timers	-.1121893	.0356368	-3.15	0.002	-.1820362	-.0423424
Self-employed	-.0941818	.0452548	-2.08	0.037	-.1828795	-.0054841

Upward Non-linear

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
Typology						
Fragmented careers	.1180125	.0316134	3.73	0.000	.0560514	.1799737
Part-timers	.0100783	.0312928	0.32	0.747	-.0512545	.0714111
Self-employed	.046303	.0422104	1.10	0.273	-.0364279	.129034

Downward

	dy/dx	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
Typology						
Fragmented careers	-.0005756	.0205262	-0.03	0.978	-.0408061	.039655
Part-timers	.0522983	.0254272	2.06	0.040	.0024619	.1021346
Self-employed	.0572122	.0340584	1.68	0.093	-.009541	.1239653